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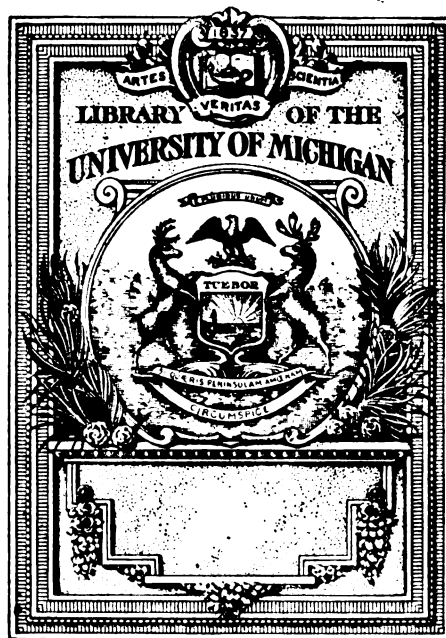
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**HARVARD AFRICAN  
STUDIES I**

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HARVARD AFRICAN STUDIES I

# VARIA AFRICANA I



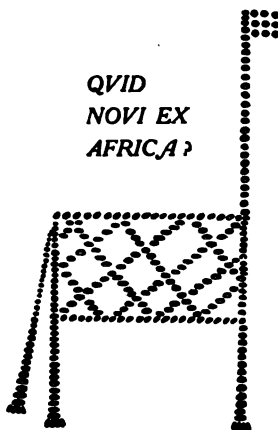
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TO  
THOSE BY WHOSE  
STEADFAST DEVOTION  
KNOWLEDGE OF AFRICA  
HAS BEEN ADVANCED  
THIS SERIES IS  
DEDICATED

000332





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The Editors here desire to express their sincere appreciation of the patient care with which the members of the publication committee have examined the manuscripts submitted to them for criticism.

## INTRODUCTION TO THE HARVARD AFRICAN STUDIES

THE scientific study of the origins of primitive society and of the ruder cultures has in the past fifty years come to assume a high importance. Already the slowly gathered results of the work of the archaeologist, the ethnographer, and the physical anthropologist are in various ways, direct as well as indirect, profoundly influencing popular opinion. Sometimes consciously, more often unconsciously, our views on many vital questions are being modified by conclusions reached by specialists in these fields of research. Their discoveries and conclusions are such as cannot today be ignored by any of the men on whose activities intellectual and moral progress depends. This is especially true of the social workers, the economists, the historians, and those merchants, missionaries, and administrators who are confronted with the problems which invariably arise as soon as civilized nations are brought into contact with savage or barbarous races.

Yet many intelligent men, especially among those who delight to style themselves "practical", are entirely unconscious of the deep importance of this new knowledge. Such men, even though they may appreciate certain types of learning, regard the time spent in the investigation of prehistoric or ancient civilizations, or of the wearisome and often repellent details of modern savagery, as time wasted. The man of limited mental horizon and defective imagination is apt to ask himself what antiquity has to do with us of today, or what good is gained by costly and sometimes perilous expeditions sent to remote parts of the earth for the purpose of recording the habits of foul or dangerous barbarians. The answer to such questions is fairly simple. Sound knowledge is, of course, desirable for its own sake — as Aristotle long ago observed, all men "naturally" desire it: at least all men whom it is worth while to call civilized. But beyond this lies the fact that man needs to know the truth about himself — as much of it, that is, as he can grasp — if he is to make the most of himself. It is only by the painstaking collection of the details of old civilizations, by the patient working out of the rude racial and cultural beginnings which led up to the ancient civilizations, and by studying races yet in their childhood, that the modern investigator can comprehend the nature of the remote past from which we of today have sprung, and from which we are separated by a wide gulf of time and change.

## INTRODUCTION

Only thus can we grow to understand the laws — or some of the laws — by which that progress has been governed.

As a field sure to yield valuable results to the student of early or primitive man, Africa holds a rank second to no other. Its vast extent, its amazing diversity, and the wide physical and cultural differences among its countless inhabitants, all conspire to make this great continent an inexhaustible source of archaeological and ethnographic interest. The need for scientific research in Africa is in proportion to the complexity and number of the problems presented by so great a field.

With our present knowledge, it appears probable that the eastern and middle portions of the great Eurasiatic land mass were the special centers of the development of the anthropoid precursors of man in his earlier stages; and it is probable that most of the pre-history of man, even of a later day, took place in these regions. But it is well nigh certain that North Africa was the route by which many of these prehistoric types of humanity reached Europe; and it also included centers of exceedingly interesting autochthonous development. At the present day the problems offered by the existence of backward culture races, which nevertheless are distinctly culture races, and which are of pure African development — races such as the Berbers and Abyssinians — has an immediate practical bearing upon many of the larger problems of a coordinated world civilization. Moreover, to the study of man's history and pre-history, consideration of what the African soil reveals is essential.

The first dawn of history broke over the valley of the Nile at approximately the same time that it broke over the valley of the Euphrates. The Nile people may have dwelt for an immensely long period in an undeveloped condition in Africa; or they, or a vitally important constituent part of them, may have come more recently from Asia. But in either event the cultural development was purely of the soil — was purely autochthonous. The problems to be investigated are just as important whether they show that the initial impetus was given from Asia, or whether they show that the impetus sprang from conditions which, after an immensely slow development in Africa, finally saw a rapid culmination in the very place where they had developed.

All kinds of problems await the archaeological explorer and investigator in Africa. They range from the existence of a blond element in the Berber stock, and the existence of a possibly similar element among the ancient Libyan invaders of Egypt, to the questions raised by the strange architecture of the cities southwest of the Sahara, such as Timbuktu. They include the ethnic changes due to infiltration, among the agricultural East African and Middle African negroes, of a northern pastoral type with very distinct physical and cultural characteristics. Isolated finds of stone implements in Somaliland, on the Upper Nile, in the Congo basin, and along the Zambesi, suggest still other archaeological questions

## INTRODUCTION

regarding the early history of man in Africa. The tasks which await the ethnologist are of no less importance. The problems which at the present day are presented by the primitive tribes still existing in Africa are legion, be they those concerning low savages such as the Pigmies of the great central forests, or those concerning the relatively advanced Berbers and Abyssinians. They include the difficult but important problems of ethnic drift and change, of the small linguistic "islands" with which Africa abounds, and of great racial migrations.

To American scholars the investigation of African humanity, ancient and modern, ought to appeal with especial force, not only on the general grounds indicated above, but for the particular reason that in this country the future of the white and black races is inextricably mingled. Roughly one tenth of the population of the United States is of African origin. All serious students of the Negro Problem in America ought to welcome material from which the past of the black race can be better understood, and its future advance furthered with an intelligence based on accurate knowledge. With this in mind, I am glad that the Publication Committee of the Harvard African Studies have decided to throw the series open to papers dealing with the scientific aspects of the Negro Problem in America.

America has not done her full share in the productive scholarship of the world. Investigation and study of the kind exemplified in this volume, and extensive field work of an exploratory character are essential to the understanding of the past and present of man. We are to be congratulated that American scholars and explorers are now doing such work as this. The series of which this is the initial volume represents the first serious attempt by Americans to contribute to the real study of Africa; and it deserves a most cordial welcome.

THEODORE ROOSEVELT.

Sagamore Hill,

August 10, 1916.



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## SĪWAN CUSTOMS

DOCTOR MAḤMŪD MOḤAMMAD 'ABD ALLAH

Egyptian Medical Service

[In 1914, wishing for further information on several points which had attracted my interest when at Siwah, I forwarded a questionnaire to the Egyptian Medical Officer stationed in the Oasis. The resident who received my letter was relieved before he could find time to answer it, but his successor, Doctor Maḥmūd Moḥammad 'Abd Allah, was good enough to give it his immediate attention. The result was the excellent letter printed below.

'Abd Allah Effendī's carefulness and good sense impressed me so strongly that, on receipt of his report, I ventured to send him a long list of questions, inquiring minutely into many details of Siwan life and belief on which it seemed probable that he could obtain trustworthy information. In December, 1915, while in the Sūdān, I received a brief letter saying that the second report was finished, and asking to what address it should be directed. My answer to this question was immediate, but was, I fear, never received, for the sudden descent of the Senussi forces on the western frontier of Egypt — a movement which certain German and Turkish emissaries had long ardently promoted — led to a good deal of temporary confusion, in the course of which Siwah Oasis was cut off. Whether 'Abd Allah Effendī was killed, or whether he fell into the hands of the Senussi, is uncertain. Such inquiries as I was able to make led to nothing, and the fate of this exceptionally good Moslem collector of folklore, and of his final report, is unknown.

The following letter is here reprinted with as little revision as possible. The English will in some places strike the reader as curious, but all who are acquainted with the ways and mental caliber of the educated Egyptian will, I am sure, be impressed with the Doctor's critical attitude and with his power of expression in a language not his own.

The notes which have been added are intended not only to illustrate the material in the letter, but to supplement it sufficiently to give the reader as complete a view as possible of the folklore of Siwah. Occasional references are made to the other Egyptian Oases as well. The notes, which owe much of their value to my colleague E. A. Hooton, are therefore somewhat disproportionate to the length of the text.

In conclusion it ought to be remarked that the songs at the end of Dr. 'Abd Allah's letter are in the original accompanied by the Siwan texts — the only Siwan texts of any length which we possess. The able grammatical sketch published by René Basset<sup>1</sup> contains but thirty six short phrases and texts in addition to the vocabulary, and a short paper by Moḥammad Effendī Kasim<sup>2</sup> gives us sixteen others:

<sup>1</sup> R. Basset, *Le dialecte de Syouah*, Paris, 1890, p. 19, sqq.

<sup>2</sup> Moḥammad Kasim, 'A meteorological expedition to Siwa' (*Cairo Scient. Jour.*, vol. 6, no. 67, Apr. 1912, p. 76 sqq.).

a very meager amount of linguistic material compared to that afforded by the connected texts given by Doctor 'Abd Allah. The addition made by the songs to our knowledge of Stwan I have considered of enough importance to warrant their being dealt with separately on a further occasion.— Ed.]

**Birth Ceremonies.** I will first consider the question of birth in general, and will then point out the ceremonial variations dependent upon the sex of the child and whether or not it is the first-born.

When a woman feels the pains of labor a midwife is summoned. If labor is easy nothing is done during the parturition; but, on the other hand, if it is difficult and protracted, the husband calls in a neighbor, and loads two guns, one of which is given to this neighbor. The guns are then fired simultaneously, close by the woman, who is unaware of the preparations. The firing of the guns serves a double purpose: first, the banishing of evil spirits, which are the cause of the difficulty,<sup>3</sup> and second, startling the woman so that the child may come down as a result of the shock.

If this is no use they go to a sheikh who has a good knowledge of the Koran and other charms. This sheikh writes some charms on a piece of paper; the paper is then put in water, thus dissolving its ink. This water is given to the woman to drink. They have a firm belief that it generally brings down the child. They could not record any death from protracted labor, nor do they in any case seek the assistance of the doctor.

When the child is born, if it is a first child, guns are fired<sup>4</sup> and the midwife is not allowed to leave the child and the house for seven days, if the child's father is rich enough to feed and clothe her. Directly after the child is born the midwife and all the women burst into prayers, blessing the child and the mother, and asking God to bless them and all their friends. (At the time of birth when the midwife is saying her prayers, a salt fish porridge is given to all the women<sup>5</sup>.) They pray at this time because they believe that the angels are coming down from heaven and going up to heaven and that they can carry the prayers easily to God.<sup>6</sup>

This being done the woman lies on soft sand for seven days.<sup>7</sup> The placenta is removed

<sup>3</sup> The use of noise to avert evil is, of course, world-wide. For a Moroccan instance in which the *ginn* are scared away by gunfire and the smell of powder, see E. Westermarck, *Marriage ceremonies in Morocco*, London, 1914, p. 122 and notes.

<sup>4</sup> Usually in North Africa it is in celebrating the birth of boys only that guns are fired. Cf. H. Bissuel, *Les Touareg de l'Ouest*, Algiers, 1888, p. 102; G. Salmon, 'Les Fahçya, une tribu Marocaine' (*Archiv. Maroc.*, vol. 1, 1904, p. 212); L. Bertholon and E. Chantre, *Recherches anthropologiques dans la Berbérie Orientale*, Lyon, 1913, vol. 1, p. 573 sqq.

<sup>5</sup> Porridge is sometimes held to be a purifying food. Cf. E. Westermarck, *Ceremonies and beliefs connected with agriculture in Morocco*, Helsingfors, 1913, chap. 1, *passim*. At Moroccan weddings the guests partake of porridge, usually served with salt butter, and smear some of it on their faces; Idem, *Marriage ceremonies etc.*, p. 242, 267, and 327. That the salt in the porridge is regarded as an essential element is highly probable, since it is widely esteemed as a prophylactic. Cf. R. M. Lawrence, *The magic of the horse-shoe etc.*, Boston, 1898, p. 173 sqq. *Vide infra* note 8.

<sup>6</sup> This is apparently an Islamized version of the universal belief that at such critical times as those of birth, marriage, or death, magical powers are abroad.

<sup>7</sup> Such beds recall the resting places the nomad Tûareg scoop in the sand — the shallow hollow called *adeben*;

at once with all traces of blood and is thrown into the latrine, or if there is none in the house it is taken to the fields and buried deeply in the ground. This precaution is taken because if any animal like the dog or cat eats the placenta or licks the blood, the woman will never be pregnant again.<sup>8</sup>

This being disposed of, a piece of iron and some salt are put together in a rag and placed in the bed of the child, so as to drive away any evil spirits which may hover round the child while his mother is absent.<sup>9</sup>

**Naming the Child.** The naming of the child comes next. If it is a first-born child and a male, he is given the name of his paternal grandfather if the grandfather is dead, if living this is not necessary. If it is a female first child, she is given the name of her paternal grandmother if the latter is dead.<sup>10</sup> If it is not a first-born child, or if the

E. Duveyrier, *Les Touareg du Nord*, Paris, 1864, p. 404. Perhaps this special use of the sand bed at Siwah is reminiscent of an old general usage, but it is more simply explained on hygienic grounds.

<sup>8</sup> Among the Berbers of southern Morocco the midwife buries the placenta with the greatest secrecy; Marquis de Segonzac, *Au cœur de l'Atlas*, Paris, 1910, p. 273. At Tlemcen the midwife secretly buries that part of the placenta last delivered; A. Bel, 'La population musulmane de Tlemcen' (*Revue des études ethnog. et soc.*, vol. 1, Paris, 1908, p. 214). The Gallas bury the afterbirth in the house, lest dogs should eat it, which would be "bad"; F. J. Bieber, 'Neue Forschungen über das Geschlechtsleben in Aethiopen' (*Anthropophyteia*, vol. 8, Leipzig, 1911, p. 193). In Dakhlah Oasis the afterbirth is either buried under the house floor, or — more frequently — pegged down in the bed of an irrigation channel where the water flows fastest. By following this latter practise parents hope to make their child fleet of foot; W. J. H. King, 'Customs, superstitions, and songs of the Western Oases' (*Cairo Scient. Jour.*, vol. 8, no. 95, Cairo, Aug. 1914, p. 166). The disposal of the afterbirth in running water also occurs at Wadi Halfa. I was there told that it was cast into the Nile at night by the midwife, who is required to smile while performing the act. No explanation of this usage was obtained.

<sup>9</sup> The *ginn* are credited with a lively dread of iron and salt, doubtless because these minerals are such recent innovations in North Africa and Arabia. There are Beduyn at this day who do not eat salt, and who regard its use as ridiculous. Cf. E. Westermarck, 'The nature of the Arab *ginn*' (*Jour. Anthr. Inst.*, vol. 29, no. 19, London, 1899, p. 262). In Cairo the *ajrit* can be turned out of a haunted house by placing in it a little bread and salt; A. H. Sayce, 'Cairene folklore' (*Folk-lore*, vol. 11, no. 4, London, Dec. 1900, p. 389). In Egypt, when a child is seven days old, the midwife carries it about the house, scattering salt, sweetmeats, and small coins; "R. S.", *تطيق الطيب*, Cairo, 1894, p. 183 sq. (According to a European writer the mixture which the midwife scatters consists of wheat, barley, peas, and salt; C. B. Klunzinger, *Upper Egypt*, etc., London, 1878, p. 186). The Moroccan Shlūh tie a knot of blue cloth containing sprigs of parsley and rue, a little salt, sulphur, silver, etc., to the new-born child's wrist. On the seventh day this amulet is transferred to the infant's neck; Marquis de Segonzac, *op. cit.*, p. 274. (It should be noted that at Siwah the salt for household use is all collected from the natural rock salt deposits on one certain day in the year, when all the men turn out to dig the annual supply. Such a practise is probably not unconnected with the regard in which, for its demonic virtues, salt is held.) The efficacy of iron is as highly reputed as is that of salt — in Egypt the mere mention of it will avert a dust devil; E. W. Lane, *The thousand and one nights*, London, 1839, vol. 1, *Notes to the introduction*, p. 34; cf. *Idem*, *Manners and customs of the modern Egyptians*,<sup>1</sup> London, 1860, p. 223. The use of iron as an exorcising medium was forbidden by the Coptic church; I. Guidi, *Il fetha Negast, o legislazione dei rei* etc., Rome, 1899, p. 140.

<sup>10</sup> It would be rash to infer that because a child is named after a dead grandfather it is regarded as a reincarnation of that ancestor. Yet in this connection it may perhaps be pertinent to cite two late and barbarous Latin inscriptions from Ghirzah in Northern Fazzān. These mortuary texts conclude with the remarkable wish on the part of the makers of the monuments that their deceased parents may revisit their descendants and make them like unto themselves — *VISITENT FILIOS ET NEPOTES MEOS ET TALES FACIUNT*; D. Denham, W. Oudney, and H. Clapperton, *Narrative of travels and discoveries in Northern and Central Africa*, etc.,<sup>2</sup> London, 1828, vol. 2, p. 127 sqq. Among the Basoga of Uganda the father takes his child to its grandfather who gives it the name of some ancestor: a child is never named for a living grandparent; J. Roscoe, *The Northern Bantu*, Cambridge, 1915, p. 214. On this question in general cf. J. G. Fraser, *The Golden Bough*,<sup>3</sup> pt. 2, *Taboo and the perils of the soul*, London, 1911, p. 364 sqq.

paternal grandparents are not dead, they will agree on any name they like. If they do not agree, the father goes to the sheikh, who consults the stars to see which name (father's choice or mother's choice) is better for the future of the child. The name which the sheikh gives will be the name of the child.<sup>11</sup> This name is declared to the wife only and is kept secret from all relatives,<sup>12</sup> neighbors, and friends except the midwife, who by law is obliged to report the birth of the child, giving its name to the health officer.

Nothing further is done until the third day,<sup>13</sup> when the father goes to the sheikh to get two *hegābs* (charms written on paper).<sup>14</sup> These charms are then put into little leathern sacks and worn, one by the child and the other by the mother. They are intended to insure health for the mother and for the child. If the child is a girl earrings must be bought for her on the third day, and later on other necessary ornaments are added.

On the seventh day<sup>15</sup> the mother leaves her sand bed, changing her clothes and putting

<sup>11</sup> Sheikhs regularly name children in Upper Egypt. On the name-day "a plate of candy-sugar is . . . sent to the Kadi or some other theologian; he sucks it, and lets the sweet fluid trickle from his consecrated mouth into that of the child, and 'gives him the name out of his mouth'." C. B. Klunzinger, *op. cit.*, p. 186 sq. The help of astrologers used often to be sought in Lower Egypt in naming children. There the boys are usually named after some Moslem saint or worthy, while more fanciful names are often given to girls; E. W. Lane, *Manners and customs etc.*, p. 53.

<sup>12</sup> This secrecy testifies to a consciousness of the dangers to which a new-born child is exposed, and to a belief in magical importance of the name. Among the Hausas, children have a public name and another, which is kept secret; A. J. N. Tremearne, *Hausa superstitions and customs*, London, 1913, p. 178. On such taboos of personal names cf. J. G. Frazer, *op. cit.*, p. 318 sqq.

<sup>13</sup> Moslem usage throughout North Africa generally celebrates the third day in some manner. Thus, in southern Morocco, the mother eats a cock or a hen on the third day, the former if the infant is a girl, the latter if it is a boy; Marquis de Segonzac, *op. cit.*, p. 274. In Kabylia, the women of the mother's village visit her on the third day bringing her presents of eggs; L. Bertholon and E. Chantre, *op. cit.*, p. 574. Without citing any source the last named writers remark (*loc. cit.*) that before the Islamisation of North Africa libations were made on the fifth day after the birth of the child, and that naming took place on the tenth day, instead of the seventh as is now commonly the case.

<sup>14</sup> The *Fātiḥah*, the chapter of the Throne (*Sūrah* II, 256), and the two last verses of *Sūrah* IX constitute the three favorite Koranic texts for children's amulets; J. Desparmet, 'La mauresque et les maladies de l'enfance (*Revue des études ethnol. et. soc.*, vol. 1, no. 11-12, Paris, 1908, p. 50 sqq.) Cf. E. Doutté, *Magie et religion dans l'Afrique du Nord*, Algiers, 1908, chap. 4, p. 143 sqq., *passim*.

<sup>15</sup> Throughout North Africa childbed usually ends on the seventh day. The child is then formally named, and a feast is made. Thus, in southern Morocco, the mother gets up on the seventh day, bathes, and goes to work. If the child does not receive a name the first day, it is called *Adāb* until the seventh, when it is named at a fête at which sheep are killed; Marquis de Segonzac, *op. cit.*, p. 275. At Tlemcen the child generally is named on the seventh day, when the father kills a sheep and makes a feast, and when a hen may be killed if the infant is a male, or a cock if it is a female; A. Bel, *op. cit.*, p. 214. Among a Berber tribe near Tangiers the seventh day is the occasion of a small family fête at which a goat or sheep is killed; G. Salmon, *op. cit.*, p. 212. Similar rites obtain among the western Tūāreg; H. Bissuel, *op. cit.*, p. 102. In Khargah and Dakhlah the child is on the seventh day placed in a sieve with salt and grains of corn, which are sifted through and scattered in the village. The father then trundles the sieve like a hoop through the streets of the village "so that when the child grows up he may be able to run quickly"; W. J. H. King, *op. cit.*, p. 167. Some such custom may have prevailed in ancient Egypt; cf. the unsigned review in *Ancient Egypt* (London, vol. 1, 1915, pt. 2, p. 88). In modern Egypt, on the seventh day, "the midwife takes the child in her arms, and if the father chance to be a rich man he throws over her a Kashmir shawl or a silken cloak. And he then collects singers and invites guests, who come with their children. These latter carry candles. And the midwife then begins to scatter salt, sweetmeats and small coins, going out at one place, and entering the house by another, and saying: 'With his little hands, with his little feet, with golden rings in his little ears, may he live to bring up his own little

on new ones.<sup>16</sup> On this day, if the father is rich, lambs are slaughtered, and a feast is given to all the relatives and neighbors, and to the Darawish of Sidi Soliman.<sup>17</sup> The Koran is also recited, and on this day the midwife performs special functions. She comes and procures fire, puts some perfume<sup>18</sup> in it (e. g. sandalwood), and all the women in the house make a circle round this fire. When they are all around the fire they stand quite still, making no motions and allowing the midwife only to speak. The midwife prays to God to bless the child, his mother, his father, his brothers (if he has any), the relatives of the father, the relatives of the mother, and finally those present. The observance of this order is absolutely necessary. After that she declares the name of the child and reads the first Surah of the Koran.

When this is finished the children<sup>19</sup> of the relatives and neighbors are brought in (both boys and girls). The girls put on their most fantastic clothing and the midwife ornaments them and the young women with henna, putting some on their noses and some on both cheeks. After that the boys and the girls begin to eat together from a basin in which bread and meat have been placed. Lastly a large basin of water is brought in (the basin must

ones!' The crowd push and squeeze themselves into the mother's room. Then the midwife places the child in a sieve, while under him is a layer of peas, hazel nuts and pistachios. She then shakes the child, while the folk all clap their hands, according to custom. This is done that the child may be fearless when it grows up. Sweets are then scattered to the children with cries of 'Kû, kû' as if to chickens"; "R. S.", op. cit., p. 183 sq. With this native account, cf. the fuller one of C. B. Klunsinger, loc. cit. Even among the pagan Nalus and Landamas on the Rio Nuñez (French Guinea) the seventh day after birth is celebrated with a feast; R. Caillié, *Travels through Central Africa to Timbuctoo*, London, 1830, vol. 1, p. 159.

The functions of the midwife on the seventh day are frequently important. Often she carries the child about, and gives it its first washing. Sometimes she lifts the child seven times before each door, or special rites are performed at seven doors, etc., cf. J. Desparmet, op. cit., p. 501 (Algeria); L. Bertholon and E. Chantre, op. cit., p. 574 (Tunisia). This prominence of the number seven will surprise no one familiar with North African magic. Cf. E. Doutté, op. cit., p. 184 sq.

<sup>16</sup> A purificatory act, which may be said to indicate the woman's return to society.

<sup>17</sup> *Vide infra*, note 65.

<sup>18</sup> Perfumes are esteemed highly efficacious in driving off evil spirits. Cf. J. Desparmet, op. cit., p. 500, for an Algerian custom of burning incense without cessation in a room where a mother is in labor.

<sup>19</sup> Children often participate in fêtes such as these. In Southern Morocco children gather on the seventh day, and recite the Fâtiḥah for the infant. When the first teeth are cut the children of the neighborhood again meet as guests of the child's parents; Marquis de Segonzac, op. cit., p. 275. Among the Banyankole, a northern Bantu tribe, young children of the same clan are bidden to a feast on the seventh day, when the stump of the umbilical cord comes away. Blood from a bull calf is then mixed with milk and the hashed up stump of the cord, the latter being added while the milk and blood are cooking. This dish the young children eat together, after which they sweep out the hut in which the mother has been secluded; J. Roscoe, op. cit., p. 124. In the Siwan instance, as in the Bantu example, the main feature seems to be rooted in the doctrine of commensality. Among the Banyankole the children who partake of the cord actually become one with the infant. Such a performance, naturally, is not to be looked for in a non-totemic society such as that of the Siwans. But the social importance of the common meal in North Africa is not to be ignored: the strength of the food bond is in many places as great as in Arabia. The presence of people of the same age group at critical times — the married women of the village at a childbed, friends and guests at a wedding, children at an infant's name-day, etc. — not only brings good luck to the principals, but also probably allows those present to share in the *baraka* of the occasion. On this cf. E. Westermarck, *Marriage ceremonies etc.*, p. 364 sq. (A different theory is put forward by A. van Gennep, *Les rites des passages*, Paris, 1909, p. 90, who interprets such *rites d'aggregation* as that described by Dr. 'Abd Allah as symbolizing the reception of the child into the society of its equals.)

be of earthen ware and new). This is lifted by all the women relatives, each trying to touch it if only with one finger, and then is allowed to fall heavily upon the ground, thus breaking it.<sup>20</sup>

Then, if the child is a first child, a barber is summoned to cut its hair (whether it be male or female).<sup>21</sup> The barber is given a weight of gold or silver just equal to the weight of the hair.

On this day the wage of the midwife is given to her. If she is given 20 p.t., she presents 10 p.t. to the child and only takes 10 p.t.

When the child's cord "falls down", it is taken and put in a box to be swelled in water. This water is used as a wash if the child gets any eye disease.<sup>22</sup> Some people take it, put it in a rag, and hang it to a palm tree. This palm tree then belongs to the child and is no longer the property of the father.<sup>23</sup>

<sup>20</sup> It is widely believed in Morocco that if an earthenware vessel falls and breaks, its owner is thereby freed from his *bqs* — a mysterious impersonal source of evil; E. Westermarck, op. cit., p. 121; 342. In Moroccan marriages it is a general custom for the groom's bachelor friends to smear him with hennâ from a bowl, some days before the consummation of the marriage. The bachelors then take the bowl, and each in turn dances with it balanced on his head. The last to dance lets the bowl fall and smash, thus removing the groom's *bqs*, Ibid., p. 98 sq. The idea underlying the Stwan ceremony is probably similar, and is not unknown in the Semitic world. In Palestine, the Arab bride has a jar of water placed on her head as she enters her new home; when she crosses the threshold she must call on the name of God, and the groom at this moment strikes the jug so that it falls and breaks. He also holds a sword over her — a prophylactic measure because of the mysterious power of iron. Cf. P. J. Baldensperger, 'Birth, marriage and death among the fellahin of Palestine' (Palestine Exploration Fund, London, Quarterly Statement, April, 1894, p. 136).

It is quite probable that Dr. 'Abd Allah has omitted in his account the part played in this ceremony by the infant itself. One may reasonably presume that the object of the women in letting the bowl fall is to drive away the child's bad luck, as the Moroccan hennâ bowl, or the Palestinian bride's jar, remove in their breaking those evils to which the newly wedded are peculiarly liable. To effect this end, it would be natural that there should exist some connection between the child on the one hand, and the vessel or its contents on the other. If the infant were, for example, first washed in the bowl, the meaning of the ceremony would be much more certain. Ceremonial washing of the infant on the seventh day, it may be observed, is widely prevalent in North Africa. It would, for example, be easier to understand the desire of all the women to touch the bowl "if only with one finger", for such a contact would be efficacious as a fertility charm. (It may be observed in this last connection that married women in Morocco assemble at childbirth partly in the hope of increasing their own chances of having offspring; E. Westermarck, op. cit., p. 364.)

<sup>21</sup> In the Libyan desert a child's first hair is not cut without a consciousness of the importance of the operation. Thus, among the Arabo-Berbers at Marsa Maṭrûḥ, the hair is first cut on the fortieth day after birth — one of the critical dates in childhood — and is spoken of as the "hair of the angels"; O. Bates, 'Ethnographic notes from Marsa Maṭrûḥ' (Jour. Royal Asiatic Soc., Oct. 1915, p. 724). *Vide infra*, note 23. The unusual form of payment of the barber at Stwah attests a similar feeling.

<sup>22</sup> At Tlemcen the dried placenta and the cord are both regarded as powerful amulets. The mother keeps a part of the cord as a remedy for the child in cases of colds or of eye disease. Against the former malady the dried cord is worn by the child attached to the breast; in the latter it is drawn across the eyelids after first being softened in luke-warm water; A. Bel, op. cit., p. 214.

<sup>23</sup> At Marsa Maṭrûḥ the cord is tied up in a small packet with the hair of a camel or of an ox which then becomes the child's property. Likewise, when a child's head is first shaved, the hair is wrapped in a bit of cloth, and this is tied to the neck of a domestic animal which becomes the property of the child; O. Bates, loc. cit. Among the Gallas the cord is sewn up in leather, and serves as an amulet for a female camel which — with such young as it may give birth to — is the child's property; P. Paulitschke, *Ethnographie Nordöst Afrikas*, etc., Berlin, 1893, p. 192. The Stwan practise is an agricultural version of that in force among the pastoral Arabo-Berbers and the Gallas. A somewhat similar usage is found among the Basoga. When the cord falls, the mother takes it, and in company with the midwife, buries it at the roots of a plantain ready to bear. The fruit, when ripe, is given to the midwife, who alone eats it, the tree from that time belonging to her, and never being disturbed by the parents; J. Roscoe, op. cit., p. 215.

The Siwans are more pleased at the birth of boys than at the birth of girls, and in addition to the above mentioned differences, give better feasts when the new-born is a boy. The source of their pleasure lies in the fact that the bringing up of a boy costs very little, whereas the girl needs ornaments, clothing, and stains. Moreover the boy is a very fruitful source of profit for the father, not for the work he does, but because he is hired by his father to another man to be used as a catamite. Sometimes two men exchange their sons. If they are asked about this, they are not ashamed to mention it. I have questioned sixty men, and found fifty nine had been catamites. The one who had not was brought up in Alexandria.

**Coming of Age.** The girls marry at eight or nine years,<sup>24</sup> unless the girl is sickly, in which case she may perhaps remain unmarried until her eleventh year. Normally therefore a girl attains her period of puberty in her husband's house, or, if she is divorced or widowed, in the house of her father. In either case nothing is done to her,<sup>25</sup> because the husband does not care a bit about her puberty, nor does the father, who considers her a parasite, when, after he has relieved himself of the expense of her maintenance, she returns to his house and he has to give her food and supply her with clothing and ornaments.

In the case of the boy, on the other hand, the period of puberty is marked by great fêtes and curious customs. This is because the people of Siwah have a rule that when a boy attains the period of puberty, he is considered a full grown man. If his father dies, he will then be his own master; he can sell his property; he can buy land; all that he does is legal. Boys reach puberty in the twelfth or thirteenth year. At this time the mother watches her son closely; she tries to surprise him when he is putting on his trousers or when he is taking his bath. Her aim is to see whether or not his pubic hair has grown.

<sup>24</sup> Siwan men first marry when from sixteen to twenty years of age; the girls generally marry when between nine and twelve; cf. C. V. B. Stanley, Report on the Oasis of Siwah, Cairo, 1912, p. 20. The substance of this report appears under the title 'The Oasis of Siwa' (Jour. Afr. Soc., vol. 11, no. 43, London, Apr. 1912, p. 290 sqq.; no. 44, July 1912, p. 438 sqq.); G. Steindorff, *Durch die Libysche Wüste zur Amonsoase*, Leipzig, 1904, p. 111. I have talked with a Siwan bride of eight and a half years. Until they reach maturity these married girls act merely as servants for their husbands. The same state of affairs prevails at Dakhlah Oasis. In Khargah Oasis girls marry from nine onward. They reach maturity at about twelve; A. Hrdlička, *The natives of Kharga Oasis*, Washington, 1912, p. 13. In Egypt many girls marry at the ages of twelve or thirteen or even, in rare cases, of ten; E. W. Lane, *The modern Egyptians*, p. 156. Cf. H. H. Ploss and M. Bartels, *Das Weib*,<sup>3</sup> Leipzig, 1905, vol. 1, p. 394 sqq. for the ages at which North African girls reach maturity.

<sup>25</sup> Apparently excision is not practised at Siwah, although it is customary in Bahariyah Oasis according to P. Ascherson, 'Die Bewohner der Kleinen Oase in der Libyschen Wüste' (Zeit. f. Ethnol., vol. 8, Berlin, 1876, p. 357). The circumcision of boys at Siwah is of course universal, although Dr. 'Abd Allah makes no mention of it. For the manner of the operation *vide* C. V. B. Stanley, *op. cit.*, p. 32; cf. H. Freimark, *Das Sexualleben der Naturvölker*, Leipzig, vol. 2, p. 51 sq. In Dakhlah exists the custom of holding the circumcision festivities at the tombs of local sheykhs. There "the circumcision parade, as in Egypt, is almost invariably combined with a bridal procession to save expense. The boy is dressed in white and rides a donkey or horse, according to the means of his parents. Boys are usually circumcised between the ages of three or [sic] five. The parents frequently wait until they have saved sufficient money to make the necessary feast. The richest families kill a sheep or a cow for this purpose"; W. J. H. King, 'Ethnographical notes on Dakhla Oasis' (Cairo Scient. Jour., vol. 7, no. 86, 1913, p. 236). Cf. E. W. Lane, *op. cit.*, p. 57 sqq.



If it has grown, the boy is considered to have attained the period of puberty and has to fast Ramadan.

On the evening of the first day of Ramadan the boy goes to the mosque to pray, and at the same time his female relatives climb up to the roof of the house to sing and shout "Zaghroutas".<sup>26</sup> Naturally all the neighbors will inquire what has happened in the house to call forth all that fun and mirth. They will be told that Mr. Aly (e. g.) is going to fast this Ramadan. When he returns from the mosque all his relations, neighbors, and friends must come to the house to congratulate him. At the same time presents are bestowed upon him by his relatives. During this Ramadan the boy is invited every night to the house of some of his friends.

In the morning of the first day of Bayram, eggs are boiled and stained red, and cakes are made,<sup>27</sup> and these are given to him to present to children and to young men who have given these to him in previous years when they attained their puberty. Those who have given him presents are also recipients of the cakes and eggs. After that he marries, if he is rich, and is no longer used as a catamite by another man.

**Marriage.** If a man wants to marry a girl, he sends his nearest woman relative with a dollar or a suit of clothing to the house of the girl. This ambassador announces the fact to the girl's mother, who, after obtaining the opinion of her husband, accepts the gift if she finds the suitor a desirable person. On the other hand they refuse the gift if he is ineligible. From the time they accept this gift, the man is considered to be the girl's husband, and it very rarely happens that any other man takes the girl as his bride. Nothing further happens at this time except that they agree upon the dowry, which does not exceed 120 p.t.<sup>28</sup> This dowry is not paid in full, unless the girl is divorced, when the husband, who has paid e. g. 20 p.t., is obliged to discharge the rest of it.

In the interval between the agreement and the night of the festival (when the bride goes to the house of the bridegroom), the father of the girl is busy buying her clothes and ornaments. The richest men spend in this way £E 22. The ornaments consist of earrings (large enough and heavy enough to tear the ears of any women except the Siwiah), a large neck ring of silver or an alloy of silver and lead, false pearls, and corals. The richest brides wear some gold ornaments. The clothing consists of two dresses, one green and the other red. They are made of silk and are intended for the day of the festival.

<sup>26</sup> The peculiar long drawn-out shrill *ululatio* of the North African and Sudanese women is known in Arabic as the *zagharti*.

<sup>27</sup> Something akin to these Bairam eggs and cakes are known in Khargah Oasis, where stained eggs are exchanged and eaten once a year.

<sup>28</sup> This agrees with the statements of C. V. B. Stanley, op. cit., p. 20, and of G. Steindorff, op. cit., p. 111. The dowry is, of course, necessary for the contraction of a legal marriage by Moslem law, although in some places, as in Dakhlah, the only obligation on the groom in this direction is that he furnish the new home in a suitable manner.

Just at sunset on the day of the festival the bride is taken to the spring Ain Tamousy<sup>29</sup> (no other spring will do). She is washed there and afterwards they take her to visit Sidi Soliman, and thence she returns to her home.

At nine o'clock in the evening the female relatives of the bridegroom go to the house of the bride. The way is lead by small boys who carry candles in their hands.<sup>30</sup> When they reach the house of the bride the boys with the candles make a circle around the bride, who sits in the center of the room with one woman to comb her hair and dress it with very offensive smelling oil. Meanwhile the women sing to the bride.

Then the bride is given a supper, consisting wholly of eggs,<sup>31</sup> after which she is allowed to sleep. When she has awakened the female relatives of the bridegroom come again to her house. During this evening also supper is given to the friends, neighbors, and town notables in the house of the bridegroom.

At about four o'clock the next morning the female relatives of the bridegroom come again to the house of the bride, bringing her husband. A quarrel then arises between the female relatives of the bride and those of the bridegroom.<sup>32</sup> The quarrel proceeds until someone is hurt. The cause of this quarrel is that the relatives of the bridegroom want to take the bride at once while her relatives refuse to surrender her. After damnation and cursing and beating each other, one of the male relatives of the bride intervenes, and she is taken to the house of the husband.

The bride is carried thither on the shoulders of a negress<sup>33</sup> and accompanied again by

<sup>29</sup> G. Steindorff, loc. cit., is wrong in saying that at Siwah the bride bath takes place on the morning of the wedding day: it falls either on the night before, as Dr. 'Abd Allah states, or on the night of the last full moon preceding the wedding. 'Ayn Tamūsā is the Arabo-Berber name for the large and beautiful spring for which the pure Siwan name is *Tid Tamūsā*. This well, like another called Bīr Aḥmad, is highly reputed at Siwah. The waters of the latter are not employed for household uses, but women sprinkle themselves therewith to improve their looks or to obtain husbands.

<sup>30</sup> Candles or other lights often figure in North African marriages, probably with a purificatory significance; E. Westermarck, *Marriage ceremonies*, chap. 4, *passim*. In one part of Morocco, on the seventh day after her arrival at the groom's house, the bride is belted by an uncircumcised boy, while other small boys of the groom's village encircle her, holding lighted candles in their hands; *Ibid.* p. 292. Again, at Fez, the bride is escorted to her new home by boys carrying candles; *Ibid.* p. 187. In Tunisia the kinswomen of the groom go to the bride's home when the betrothal ceremonies are finished: they are accompanied by their servants carrying gifts, and their way is lighted by torches and lanterns; L. Bertholon and E. Chantre, *op. cit.*, p. 577.

<sup>31</sup> Eggs figure prominently in Moroccan weddings, probably as fertility charms; E. Westermarck, *op. cit.*, p. 144, 352; cf. E. S. Hartland, *Primitive paternity*, London, 1909, vol. 1, p. 55 sqq. In the folk-medicine of modern Egypt, "the egg which is laid on Saturday is a remedy for all ills"; "R. S.", *op. cit.*, p. 186.

<sup>32</sup> Such sham fights are common in the Moghreb; E. Westermarck, *op. cit.*, references s. v. "Fights" in the index. They are also known in Tunisia; L. Bertholon and E. Chantre, *op. cit.*, p. 585. The origin of them, whether they are purificatory, or are derived from the antagonism of different social groups, or are ceremonial expressions of the bride's reluctance to leave her family, is obscure.

<sup>33</sup> For a Moroccan parallel see E. Westermarck, *op. cit.*, p. 219 and 324 and references. This usage is also known in Egypt. The threshold is the haunt of *ginn*, and so to be avoided at critical times. The attendance of a negress upon the prospective bride is common in Morocco; E. Westermarck, *op. cit.*, p. 141, 156, etc. It occurs too at Tlemcen; A. Bel, *op. cit.*, p. 216 sqq. It is not necessary, however, to see in such a usage anything more than the natural employment of the readiest labor — viz. that of slaves, who are usually blacks. That no more recondite explanation

the boys with candles. The negress carries her to her room, and when her husband comes he puts his right toe on her right toe<sup>34</sup> and the negress says: "I will sell you this girl; how much will you give for her?" He replies "I will pay you gold equal to her weight" (when perhaps he has not a piaster in his pocket). When he has said this the negress is satisfied and leaves him.<sup>35</sup>

The bridegroom stays with his wife for half an hour and then leaves her, after putting in her bed a quantity of peas and sugar and throwing some about the room.<sup>36</sup> (The Siwiah are very fond of peas and sugar. The peas are roasted and therefore easily eaten.) The women then enter her room and each eats some of these peas and sugar. After this the bride and the young girls play odd-and-even with the peas, and a series of other games follows.

The bridegroom in the meantime goes (again) to Ain Tamousy<sup>37</sup> to take a wash, after which he prays in the mosque, and finally goes with his friends to a *hatiah*<sup>38</sup> (garden), where food is brought them from the house of the bride. There they eat and remain until late in the evening, when the bridegroom returns to his house. The following two days he repeats this program but his food is no longer brought from the house of the bride's parents, but from his own house.<sup>39</sup> The feast of the men then comes to an end, whereas the feast of the women continues until the seventh day.<sup>40</sup>

is necessary seems clear from the fact that in the Seventeenth Century the brides of the Moghreb were carried about the streets by Christian captives "and for want of these by negroes, or by a meaner sort of whites"; L. Addison, *West Barbary*, Oxford, 1671, p. 184.

<sup>34</sup> In Moslem marriages at Alexandria, on the wedding day, "when the bride meets the groom, she sets her two feet on his, that her word may prevail over his. Some hang a slipper over the door through which the groom is expected to enter, in order to attain the same end"; "R. S.", op. cit., p. 186.

<sup>35</sup> Presumably a survival of marriage by purchase, which exists in very simple form in Morocco and Algeria; E. Westermarck, op. cit., p. 73 sqq.; A. Hanoteaux and A. Letourneux, *La Kabylie*, Paris, 1872, vol. 2, p. 148.

<sup>36</sup> Peas, whether because they come many in a pod, or for some other reason, are regarded in Egypt as conducive to fertility. This is the reason why they play so great a rôle in the annual festival of Sîdî Aḥmad el-Bedawî at Tanṭa — at that *môled*, one of the prime objects of which is to stimulate fertility, everyone consumes great quantities of parched peas. For the scattering of food at weddings cf. E. Westermarck, op. cit., p. 195, 207, 211, 361 sq.

<sup>37</sup> The groom's bath is as important a feature throughout North Africa as that of the bride. Each has a purificatory purport. For *'Ayn*, or *Tîd*, *Tamûsâ*, *vide supra*, note 29.

<sup>38</sup> A *ḥaṭṭah* is the Arabic term, derived from *هَضَءٌ*, *e superiore loco in inferiorem deposuit*, used for an alighting place in the desert, and, by extension, since such sites usually boast a little grazing, for gardens or plantations.

<sup>39</sup> It not infrequently happens that after the consummation of the marriage the groom spends the few following days with his bachelor friends, returning to his bride late each evening. Thus, among some of the Moroccan Berbers, the groom and his bachelor friends sit together through the day following the wedding night, go out to hunt on the second morning and remain together all that day, repeating this procedure on the third and fourth days; E. Westermarck, op. cit., p. 287. Among other Berbers of Morocco the groom and his friends tour the neighborhood for several days after the marriage, returning each evening to the village of the groom, who spends the night with his bride; *Ibid.*, p. 284 sqq.; cf. A. Bel, op. cit., p. 218. The reason for this association of the bridegroom with his unmarried comrades probably lies in a desire to make the dangerous transition from an unmarried to a married state gradually.

<sup>40</sup> G. Steindorff, op. cit., p. 111, on the authority of Baron Grûnau, gives us in regard to Stwan weddings the following details which Dr. 'Abd Allah does not mention in his account: on the evening of the wedding day the groom, to

When a man marries the second time he gives no feasts at all. But if the wife is a virgin, the customs described above are observed by her friends. But if she herself has also been married before, neither party gives any feast, and in the evening she goes to her husband's house, not carried, but on her own feet.<sup>41</sup>

**Widows.** The moment the husband of a woman dies, she is considered a ghoul. A ghoul is theoretically a woman who eats young children, and is therefore hated by everybody.<sup>42</sup> The name is given to the widow, not because she eats anybody, but because she is hated.<sup>43</sup> When the funeral of the husband moves toward the grave she is taken by the women to a neighboring spring to be washed. She then puts on white clothes and returns to the house to be confined in a room for four complete lunar months and ten days.

Before her confinement her toenails and finger nails are trimmed, some of her hair is cut off, and her silver and golden ornaments are put away so that she cannot wear them. She is not allowed to leave her room, and no man has anything to do with her except one very near relative, either her father or her brother. This man brings her food and supplies her with all that she wants.<sup>44</sup>

On the evening of the tenth day after the fourth month<sup>45</sup> food is given to some children who climb to the roof of the widow's house and shout for half an hour, saying: "Beware,

the accompaniment of a monotonous chant, mounts to the roof of the bride's house, holding a green palm frond in his hand. When on the roof, he takes off his white outer robe, which he wraps round a stick and sprinkles profusely with olive oil. He then sets fire to the robe, and when the stick within it is half consumed he takes it down in one of the rooms, and lays it on two stones, that it may be wholly burned. If the stick breaks in two, it is a sign of misfortune, but if it burns up without breaking the omen is good, and the groom is assured of a long and happy life. When the groom descends from the roof the bride formally asks him if he has made trial of the future. (According to Baron Grûnau the word used in putting the question is "bissbassa" — for which *vide infra* note 71, *ad fin.*) The groom then gives the bride a palm frond to which are tied twelve live pigeons.

<sup>41</sup> In summarizing his study of marriage among the Berbers of Morocco, E. Westermarck, *op. cit.*, p. 334 sq., remarks: "A bridegroom who is a bachelor is subject to the same ceremonies whether the bride be a virgin, a widow, or a divorced wife, whereas these ceremonies are omitted in the case of a bridegroom who has, or who has had another wife, quite independently of the state of the bride; and a bride who has not been married before is subject to the same ceremonies whether the bridegroom be a bachelor, a widower, or a polygamist, whereas these ceremonies are, if not altogether done away with, at all events much reduced, in the case of a bride who is a widow or a divorced wife, quite independently of the state of the bridegroom". He concludes from this that the bulk of the ceremonies are due to the fact that the person who is subject to them is one who is a bride or bridegroom for the first time. "She or he enters into a new state, the wedding is a *rite de passage*; and to pass into a new condition or to do a thing for the first time is not only in this, but in many other cases, considered to be attended with danger". Cf. A. van Gennep, *Rites de passage*, Paris, 1909, chap. 7.

<sup>42</sup> *Ghûlah* is the fem. of the more familiar *ghûl* of Arab folklore.

<sup>43</sup> For "hated" Dr. 'Abd Allah of course means "feared". The widow is probably held to be dangerous because the spirit of her dead husband is thought to be near her for some time after his decease; cf. J. G. Frazer, *The Golden Bough*,<sup>3</sup> Taboo and perils of the soul, London, 1911, p. 142 sq.

<sup>44</sup> A former Egyptian medical officer in the Oasis, Dr. Farid Ramaḍān, to whom the late Captain C. V. B. Stanley and I were indebted for much information, stated that the widow was waited on by a girl or a boy. Cf. C. V. B. Stanley, *op. cit.*, p. 29; O. Bates, 'Stwan Superstitions' (Cairo Scient. Jour., vol. 5, no. 55, 1911, p. 92 sq.); G. Steindorff, *op. cit.*, p. 112.

<sup>45</sup> According to Moslem law, mourning is incumbent on a widow for four months and ten days after her husband's death. Cf. T. P. Hughes, *Dictionary of Islam*, London, 1885, p. 666, s. v. "Widows".

beware, the widow of the late So-and-so is going out tomorrow." Moreover the town crier goes through the streets announcing that the ghoulā will go out tomorrow.

When the men hear this, they all go the next morning to the fields and hide themselves, taking the greatest precautions to avoid meeting her either when she is going out or when



Fig. 1.



Fig. 2.



Fig. 3.

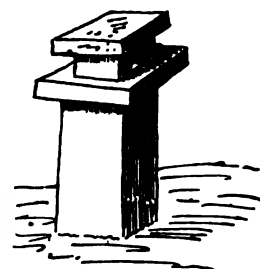


Fig. 4.

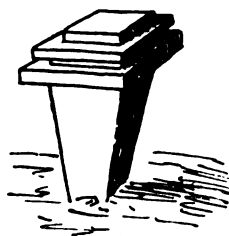


Fig. 5.

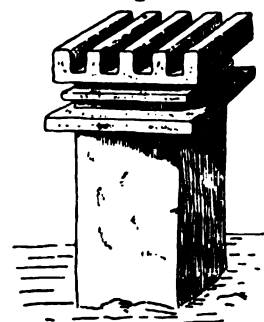


Fig. 6.

she is returning to her house. This is because he who meets her either dies or becomes very poor from very rich.

In the morning the widow climbs to the roof of her house, looking for anybody to see. When she sees some one she weeps and shouts. Then she goes out with a woman hair-dresser and visits the grave of her husband, after which she goes to one of the wells to take a bath<sup>46</sup> and then returns to her house. She is now visited by all and can marry if she likes.<sup>47</sup>

<sup>46</sup> She bathes in Tid Tamûsâ. No one in the town ventures forth until she has completed this purification; cf. C. V. B. Stanley, op. cit., p. 28.

<sup>47</sup> With this account may be compared the following relation regarding the mourning customs practiced a century ago near Algiers: "While mourning lasts every kind of superfluous indulgence and ornament is suppressed. A widow of rank changes her band, richly set with precious stones, for a simple piece of white ribbon, while the clothes she wears are purposely soiled to give her a greater appearance of mourning. She also goes down to the beach, if living near the sea; and seated on a rock, arranges her hair, discomposed by the recent loss, with a golden comb procured for the occasion. At the end of four months and ten days she returns to the spot with the identical comb and four fresh eggs; the latter of which are given to the first person she meets, who cannot refuse them, although they are supposed to carry away all the afflictions of the donor; and the comb is thrown into the sea. She is then, and not before, at liberty to marry again"; F. Pananti, *Narrative of a residence in Algiers*, London, 1818, p. 216. Here the point of coincidence with the custom recorded at Siwah is the widow's practice of ridding herself of her bad luck

**Death.** When a man dies, they strip off his clothes, press with their hands on his abdomen, and wipe off the body. Then they cry. When their cries are heard, all the women in the neighborhood and of the town go to the house of the dead. They simply cry if the dead is an old man, but if he is young they beat their faces until they bleed, although they are forced to abandon this directly the men see them.

Then the town crier goes through the town, telling them the name of the graveyard<sup>48</sup> and the people ask him who is to be buried in this graveyard and he tells them the name of



Fig. 7.



Fig. 8.

the deceased. At the same time the women climb to the roof of the loftiest house and wail, this serving as a second announcement. The reason for all this is that in Siwah walking in the funeral procession is compulsory.<sup>49</sup> Any one who does not give an adequate reason for not attending the funeral (e. g. that he is so ill he is unable to walk) is arbitrarily fined.

All work stops in Siwah when anyone dies. As soon as the men take the deceased to his grave, the women take his wife, who is now a *ghoula*, to the spring to be washed.

at the expense of the first passer-by whom she meets or sees when she comes out after her period of mourning. A close parallel to this institution of the *ghūlah* is found among all the Fanti-speaking tribes of the Gold Coast. The Fanti widow, after the funeral of her husband, is led to the beach by a number of elderly widows. She bathes, and is then led back to the deceased's house, where she is confined to the death chamber for eight days. At midnight on the eighth day, she is again taken to the beach, carrying on her head a pot of live embers. The widows accompanying her cry the warning "Look out, look out! A widow is coming." On hearing this cry such folk as are about take themselves off at once — if caught they are well thrashed by the women. The fire, "an emblem of cleansing", is thrown into the sea, and the widow herself is thrice ducked. Finally, she is escorted back home to the accompaniment of the same warning cries. She is then once more "clean", A. ffoulkes, 'Funeral customs of the Gold Coast Colony' (Jour. Afr. Soc., vol. 8, no. 30, London, Jan. 1909, p. 157 sq.).

<sup>48</sup> There are two cemeteries now in use by the folk of Siwah Town itself: one to the northwest and one to the southwest of the town. The graves are shallow pits, often roofed lengthwise with palm logs, the bodies lying extended in the usual Mohammadan posture. Many of the graves are marked with headstones of curious aspect (figs. 1-6), and small food bowls or braziers of local pottery (figs. 7-8) are frequently set at the foot of the grave.

<sup>49</sup> At Tetuan it is believed that at the grave-side the *ginn* immediately choose another victim: therefore the bigger the crowd the less the individual risk among those attending the funeral; E. Westermarck, 'The nature of the Arab *ginn*' (Jour. Anth. Inst., vol. 29, London, 1899, p. 254). It is conceivable that some such idea may underlie the compulsory attendance at funerals in Siwah.

If the man was rich, food is given to the Darwishes of Sidi Soliman, to the members of the nearest mosque, and to the pupils of the Kottab.<sup>50</sup> This food consists of boiled rice and oil. The Koran is read in the house before the procession moves, or, if not in the house, at the grave either immediately after the burial or, in accordance with the old custom, after three days.

A thikr<sup>51</sup> is held in the first evening. The male relatives do not go to their houses for three days, and in the meantime are fed by their neighbors and friends. No special dress is worn. At the fortieth day and after one year they slaughter a sheep and give food to the Darwishes and to the members of the nearest mosque, who in their turn hold a thikr for the deceased.

The ceremonies are executed in the case of the death of a woman, but the widower does not become a ghou, nor does he live for three days outside of his house. He is fed for three days by the neighbors and then looks for another wife. He generally marries on the thirtieth day after the death of his wife, but without any ceremony at all. He does not even send the dollar with the woman who goes to the bride's house.

Children are buried without any ceremony except that attendance upon the funeral is compulsory in this case also.

**Inheritance.** Property is inherited in Siwah exactly in accordance with Mohammedan law. When a man makes a will the division of the property may differ somewhat from the legal disposition, but only within certain limits.

**Fortune telling.** The people of Siwah seem to have had no fortune telling systems of their own,<sup>52</sup> but when they came in contact with the Egyptians they adopted their ways of telling fortunes. The following are the methods used in Siwah: (a) A woman procures some dry beans and the skin is peeled from one of the beans. This peeled bean serves as an indicator. It represents the person whose fortune is being told; e. g. if a woman on throwing the beans finds the peeled bean between two other beans, as in the following position  $\begin{smallmatrix} 0 \\ \bigcirc \leftarrow \text{peeled} \\ 0 \end{smallmatrix}$ , she tells him that some special thing will happen to him. This

something will be different if the arrangement is as follows  $\begin{smallmatrix} 0 & 0 \\ \bigcirc \leftarrow \text{peeled} & 0 \\ 0 & 0 \end{smallmatrix}$ , or thus  $\begin{smallmatrix} 0 & 0 \\ \bigcirc \leftarrow \text{peeled} & 0 \\ 0 & 0 \end{smallmatrix}$ .

There are special women who are authorities in this manner of telling fortunes.

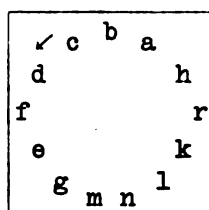
<sup>50</sup> A *kuttāb* is primary school at which boys first learn their letters.

<sup>51</sup> A *zikr* is a religious performance in which a party of men join in rhythmically invoking the name of God or in repeating some one of his attributes. Such performances are common through the Moslem world, and the men who take part in them often work themselves into a state of frenzy. Cf. T. P. Hughes, op. cit., p. 703 sqq., s. v. "Zikr".

<sup>52</sup> Dr. 'Abd Allah is right in so far as he describes no methods of divination practiced at Siwah which are not well-known in North Africa.

(b). Fortunes are also told by means of sand.<sup>53</sup> The method is as follows. Rows of prints are made in the sand with the finger tips. The number of prints is variable; any number will do. Then subtractions and additions are made, and finally a resulting number is obtained, e. g. twelve. There is a book printed in Egypt, and this is consulted for the purpose of finding out what is written against the number twelve. It may be, e. g., "You are going to marry whom you love", or "You have two friends whom you trust very much, beware of them", etc. This book has numbers from one to a hundred, and against each number something of the sort is written.

(c). The third way is similar to the second, but instead of prints on the sand a square is made and letters are written in a circle in it, thus —



The man to whom the fortune is going to be told is ordered to put his finger on one of the letters. Let us say he puts his on *d*. They then count the tenth letter from *d*, the direction of the arrow being the direction of their counting [i. e. anti-clockwise]. In this present case, the letter will be *a*. This *b* is equal to 2.<sup>54</sup> Then suppose the name of the man to whom the fortune is told is 'Abd Allah. On adding (the numerical value of) the letters in 'Abd Allah, they will be equal to 142.<sup>55</sup> The numbers corresponding to the letters in the name of the man's mother are then taken and added in the same way. Let us say she is called Fatmah; the letters added together come to 135.<sup>56</sup> They then add the values of the letter and these two names like this:  $2 + 142 + 135 = 279$ . They make next their subtractions and additions and get a result which is final. Let us say it is 53. They look up this and see what is written against 53 in the book. This will be the fortune of the person.

<sup>53</sup> This is the well-known form of divination called by the Arabs *darb-er-raml*. For a very full account of it see Moḥammad ibn Omar et-Tūnṣī, tr. Dr. Perron, *Voyage au Darfour*, Paris 1845, p. 359 sqq. and 362 sqq.

<sup>54</sup> For the numerical value of the Arabic letters see T. P. Hughes, op. cit., p. 3, s. v. "Abjad"; and for the magical employment of the letters as numbers cf. Ibid., p. 77 sq., s. v. "Da'wah" and E. Doutté, op. cit., p. 174 sqq.

<sup>55</sup> The letters spelling "'Abd Allah" have the following values: 'ayn = 70; bā = 2; dāl = 4; alif = 1; lām = 30; lām = 30; hā = 5. The sum of these is 142.

<sup>56</sup> The letters spelling "Fāṭimah" have the following values: fā = 80; alif = 1; tā = 9; mīm = 40; hā = 5; The sum of these is 135. The use of the mother's name rather than the father's is almost universal in Moslem magic. It may be reminiscent of an age in which descent was regularly reckoned in the female line, but it is simpler to suppose that its employment is due to a desire to establish the son's identity in an unquestionable manner. On this cf. E. Doutté, op. cit., p. 166.



**Charms and Medicines.** Every ailment in Siwah requires a special charm, without the use of which any amount of medical treatment would be quite useless. If a man gets a fever he goes to the sheikh, who takes his name, his mother's name, and the name of the day on which he fell ill. The sheikh then consults the stars, makes additions or subtractions, or makes use of some other method of divination which is unfamiliar to his patient, after which he begins to prophecy as to whether or not the man will recover. If he is going to recover he tells how long the illness will last. Then he begins to write charms. The paper on which the charms are written is either worn, or it is soaked in water and the water drunk, or it is burned and the fumes inhaled. In addition some prescription is advised. Examples of these are as follows:

Fever (usually malaria).

- a) A special charm is burnt daily.
- b) In rigors, vapor of Kusbara<sup>57</sup> is inhaled.
- c) Strips of hard skin from the sole of an old negro are burned and the fumes inhaled.
- d) Inhalation of burnt spider's web or goat's hair.
- e) The *adan*<sup>58</sup> is written on his back.
- f) A secret charm is repeated and a knot tied on a piece of string daily for a day.

Syphilis.

- a) Bathing in any spring.
- b) Eating a dog secretly.<sup>59</sup>

N. B. Now-a-days the people of Siwah generally consult a doctor when they contract this disease.

Diarrhoea.

- a) Large quantities of boiled rice are eaten.

Abdominal Pain.

- a) A pigeon is slaughtered and its blood mixed with wood ashes on the patient's abdomen. The pigeon is then eaten and the blood and ashes are used as the basis of a charm which is very efficacious.<sup>60</sup>

<sup>57</sup> *Kusbarah* is coriander.

<sup>58</sup> The *qzān* is the summons to public prayers proclaimed from the minaret. See T. P. Hughes, op. cit., p. 28, s. v. "Azān" for the formula. This writing on the patient's skin is related to medical tattooing.

<sup>59</sup> Cf. O. Bates, 'Siwan Superstitions' (Cairo Scient. Jour., vol. 5, No. 55, p. 90); C. V. B. Stanley, op. cit., p. 31. The eating of dog's flesh is of course in flagrant opposition to Moslem ideas. On this subject the reader may consult, with caution, L. Bertholon, *La cynophagie dans l'Afrique du Nord*, Tunis, 1896.

<sup>60</sup> Dr. 'Abd Allah has drawn on C. V. B. Stanley for this list of remedies: all the prescriptions he lists under "fever" are substantially the same as those given by that writer (op. cit., p. 32), and they are moreover here presented in the same order. The other remedies are also found in Stanley's account (p. 30 sqq.).

Blood-letting, cautery and setons are also much used at Siwah.<sup>61</sup>

A great many other charms and cures are used for all sorts of things, good and bad.<sup>62</sup>

<sup>61</sup> In addition to the remedies listed above, C. V. B. Stanley, op. cit., p. 30 sqq. gives the following: —

- I. For Headache: —
  - a) Rubbing with vinegar made from Labgi [leg. *lakbi* = palm wine].
  - b) A paste made of Henna and salt applied to the head.
  - c) Laddin (chewing gum) is chewed and put on the temples on each side.
  - d) A thick Arab dikka is taken from a pair of drawers, tied round the forehead, and twisted tight by means of a key. The position of the key is changed from time to time — half an hour daily (morning and evening) for three days completes the cure.
  - e) Cautery to parietal, frontal or temporal region. Firing is commonly used for pain in any region.
  - f) Blood-letting from the temples.
- II. Cold in the Head: —
  - Burnt sugar inhaled through the nostrils.
- III. Ear Troubles: —
  - A mixture of salt, oil, onion juice and myrrh is used in the form of drops.
- IV. Teeth: —
  - a) Concentrated boiled tea without sugar is used hot as a gargle.
  - b) Gargle of infusion of cloves.
  - c) Young onion shoots roasted on fire and the vapor inhaled.
  - d) The yoke of hard boiled eggs applied hot as a paste.
  - e) The rib of a leaf from plug tobacco is stuck in the cavity of a tooth.
  - f) Gargle of vinegar.
- V. Chest Troubles: —
  - a) Cupping — a small clay cup is used.
  - b) Blood-letting from the arm, and rarely from the chest itself.
  - c) Eating large quantities of raw eggs.
  - d) Drinking hot water.
  - e) Bambouf [*sic*] leaves are boiled and the patient sits over the vapor, which ascends under his cloths.
- VI. Abdomen: —
  - b) For constipation either olive oil or salt in large quantities.
  - d) Rubbing for three days with olive oil.
  - e) Garlic is boiled with meat and eaten.
- VII. Pains in the Back: —
  - a) Rubbing with olive oil.
  - b) Bloodletting.
  - c) Bran heated and applied as a dry poultice.
  - d) Cactus leaves heated and applied.
- VIII. Whitlows: —
  - a) Egg plant heated and worn as a finger glove.
  - b) Roasted onion is used in the same way.
  - c) If the whitlow is open squashed dates are applied to the wound.
  - d) Bees' honey is applied to an open wound. This is an Arab remedy.
- IX. For wounds in general: —
  - a) Spider's webs are mixed with dates, dried, and used as powder or paste daily.
  - b) Benzoin used in powder.
  - c) Kohl stick.
  - d) Mixture of sugar and salt (also Arab).
- X. Inflammation: —
  - a) Bran poultices.
  - b) Hot leaves of cactus.
  - c) Hot cow droppings.
  - d) Strips of an old girbe or waterakin, which has been used for holding oil, are heated and applied.
  - e) Rubbing with an infusion of Inab el Dyb.
- XI. Gonorrhoea: —
  - a) Eating bees' honey in the early morning is a common treatment.
  - b) Drinking large quantities of barley water — this is rarely used.
- XII. Syphilis. *Djerubb*: —
  - a) A sore is treated like an ordinary wound.
  - b) The eruption is treated by continual washing in a spring — any spring will do.
  - c) The eating of dog's flesh is supposed to be very beneficial; it is always done in secret. Puppies are only eaten by the people who want to put on flesh.
- XIII. Fractures: —
  - a) Strips of palm ribs are applied with leather thongs and used as splints.
  - b) New cloth is wound round the limb and a paste of eggs and powdered lentils put on as a stiffening.
- XV. Burns: —
  - a) For simple scorching cold water is poured on.
  - b) If skin broken [*sic*], salt or salt water applied.
  - c) A hot freshly killed rabbit's skin is applied.

**Mouleds.** The principal mouleds held at Siwah are those of Sidi Soliman, the Prophet, Sanousy, Madany, Abou El Roash, Gad Aly, Itman, Salem, Abdou. (Sidi is a prefix to all these names.)<sup>63</sup> The mouled of Sidi Soliman is held immediately after the harvest.<sup>64</sup> That of the Prophet is held on his birth day. The others are held on the anniversaries of the deaths of the respective saints. Except in the case of the mouled of Sidi Soliman (see below), nothing is done in these mouleds except that the rich give food to the poor in order to obtain the favor of the sheikhs, and in payment of promises made in return for cures or other benefits conferred by them. For example, if I am ill I go to Sidi Itman and say: "Sidi Itman, if I am cured I will give you food in your mouled and

XVII. Eye Troubles:—

- a) White of egg and alum are mixed and applied on cotton during the night only.
- b) Tea leaves slightly boiled made into a paste, and applied warm.
- c) Cautery to temples or blood-letting.
- d) Setons.
- e) Milk from the breast of a woman who is nursing a girl — a Sudanese preferably. This is very common amongst the pagan tribes of the West Coast of Africa."

<sup>63</sup> As Dr. 'Abd Allah gives us no further information on this topic, it may be permissible to supplement his account with a brief notice of the charms used in the neighboring oases.

In Dakhlah "the women have many cures for barrenness, most of which are of an intensely revolting nature: one of the least disgusting being to insert fenugreek seeds into the vagina"; W. J. H. King, op. cit., p. 168. The medical officer at Dakhlah in 1914 forwarded to the Editor the following cures for barrenness: (a) The woman procures a piece of gold of any sort; a bit of silver; any implement used by a barber (e. g., a razor); some seminal fluid, and some menstrual blood. These five things are all placed in an earthen pot, which is then set on the top of a large rock or on the summit of a hill, on the last night of the lunar month. The vessel and its contents remain undisturbed until the dawn of the next day, when it is removed. At sundown on the first and second days of the new lunar month the barren woman steps seven times over the vessel. It is then thought either that she has become pregnant, or that she will become so on her husband's first having intercourse with her. In (b), a variant of this remedy, the woman takes the five concomitants mentioned above, and adds to them a frog killed before her eyes by a man named Moḥammad. She then proceeds as above, with the same result.

Another procedure against sterility is as follows (c):— There is a spring in Dakhlah known as 'Ayn el-Masḥm. To this spring the barren woman repairs in company with a midwife, having previously collected water from seven different wells — about 8 liquid ounces from each — which is poured into an earthenware drinking bottle, (a *ḥullah*). Arrived at the spring, the woman strips and bathes in it, while the midwife so breaks the water-jar that its contents pour over the woman's body. The curse of barrenness is now thought to be removed from the woman. The time for performing this ceremony is obviously dictated by Moslem sentiment, as it is thought that to be effective the bathing should take place just before noon prayer on Friday. Sterile women of Dakhlah also visit disused cemeteries where they pray for offspring; W. J. H. King, *Ethnographical notes on Dakhla Oasis* (Cairo Scient. Jour., vol. 7, no. 86, Nov., 1913, p. 237). The first of these sterility cures is an exceptionally complete and clear piece of magic. The mingled organic ingredients are regarded as a sort of mechanical generation; the barber's implement is added to insure the child's being a male; and the silver and gold are presumably put in to assure the future prosperity of the child. The pot is exposed on an eminence to catch the *baraka* attaching to high places, or to be entered by some spirit awaiting a chance to be born. The time is chosen rather in accordance with the latter view, as the last night of the lunar month is a time peculiarly demonic. The stepping over the bowl in the last stage of the cure permits the entrance of the impregnating influence. In the variant where a frog is killed, we have merely the addition of another fertility idea. From very ancient times in Egypt the frog has been associated with ideas of fecundity; cf. E. A. W. Budge, *Osiris and the Egyptian resurrection*, London, 1911, vol. 1, p. 279; A. Wiedemann, *Religion of the ancient Egyptians*, London, 1897, p. 129 sq. For an interesting Indian parallel to the third cure, in which the patient bathes in water drawn from seven springs, see E. S. Hartland, op. cit., vol. 1, p. 82.

<sup>63</sup> *Std* is the common contraction of *Seyyid* (= my lord).

<sup>64</sup> That is, in accordance with the solar year rather than with the Moslem lunar calendar. This is a point to be taken into account in considering whether or not *Std* Suleymān is the modern descendant of some ancient deity or spirit. Cf. E. Doutté, op. cit., p. 481; 541 sq.

six candles to burn on your grave at night." If I am cured this offering will be given yearly on the day of the mouled. This must be done in order to avoid future illnesses.

A thikr is held and the Koran is also recited on the days of mouleds.

Sidi Soliman is the most potent of all the sheikhs.<sup>65</sup> He was a member of an Arabian tribe called Beni Selim, which formerly resided at El Higaz, but migrated to Siwah at some unknown time. His father's name was Misallem and it is told he was a descendant of the Prophet through his mother, although this is very doubtful. He was, when young, very religious and very moral, but he became a sheikh by reason of certain miracles that he performed. Some of these are known to the Siwiah and those who told me this history say that these miracles are only a few out of many.

1. At the birth of a child the people of Siwah make a salt fish porridge. It happened that when the wife of Sidi Soliman gave birth to her first child, there was no salt fish in Siwah. They went round and round but they could not find even one in the whole town. Sidi Soliman was then blamed by the women for not taking the precaution to lay in salt fish for such an occasion. He asked their pardon but they blamed him more and more until at last he stretched his hand out of the window and brought it back with a living fish in it. This fish he procured from the sea, doubtless, as there are no fish at all in Siwah, and the minimum distance from the sea to Siwah is 170 miles.

2. Sidi Soliman had a hatiah in Om Siwah. Once he came to it after sunset to pray. He dismounted from his donkey to get water to make his widoo.<sup>66</sup> He then put his hands on the sand and two springs gushed forth, one of fresh water under his right hand, and the other of salt water under his left hand. With these he made his widoo and prayed. It happened that after his death a donkey urinated in the springs. The donkey died immediately and the springs disappeared.

3. When Sidi Soliman was in his hatiah he used to pray under a palm tree. The palm tree bent down and made a natural fence around the place where he used to pray. Twenty years ago a man cut down this palm tree and he also died.

<sup>65</sup> Sidi Slimân, as he is called at Stwah, may be justly described as the patron saint of the Oasis. In an Arabic account of the Egyptian Oases of which Stanley and I secured copies, he is thus referred to: "At this time died Sidi Suleymân el-Wâly, who was the son of 'Omar Mesellim el-Wâly, and who at Stwah is now called 'Ammi Mesellim [= Uncle Messelim]. Both he and his father were Kâdls of Stwah. Sidi 'Ammi Mesellim dwelt outside the town in a place still known, and where he lies buried. Of old, the people of Tebû in the Sûdân used to invade Stwah yearly, until on a time they raided the property of Sidi 'Ammi Mesellim. He thereupon prayed God for aid against the invaders, and they were buried to their waists in the sand. The raiders then repented and were set free. When they had returned into their country, Sidi 'Ammi Mesellim prayed God to hide the road from thence, and to this day it remains unknown." This substantially agrees with version given by C. V. B. Stanley, op. cit., p. 39-40.

It may be observed that an interesting feature in this report is the mention of the Tebû raids — yet one more reminder of the accessibility of the Egyptian Oases from the Sûdân. Our earliest mention of such raids dates from the VI Dynasty; J. H. Breasted, *Ancient records of Egypt*, Chicago, 1906, vol. 1, p. 153, § 335. Circa 445 A. D. the Blemmyes, starting from at least as far south as Nubia, harried the Oasis Magna (Khargah); Evagrius, *Historia Ecclesiastica*, vol. 1, p. 7, ed. W. Reading, Cambridge, 1720. Makrizi gives us another example when he relates how "in the year 339 [A. H. = 950-951 A. D.] the King of Nubia with a great army penetrated to the Oases, and fell upon the inhabitants, and slew a great number of them"; Takl ed-Dîn el-Makrizi, trans. V. Bouriant, *Description topographique et historique de l'Egypte*, Paris, 1900, pt. 2, p. 698. The latest instance was during the Mahdist rebellion, when Khargah was raided by the Dervishes.

<sup>66</sup> The *widû* is the ceremonial ablution every Moslem performs with water or with sand before prayer.

On the mouled of Sidi Soliman the fellaheen make up parties varying from seven to thirty persons. Each of these companies slaughters a sheep which they fry in oil. With this meat, some spirit (generally pure alcohol<sup>67</sup>) and some peas and sugar they go to a garden. With them they take a boy who is generally 'married' to the head of the party. Twenty or thirty days before the mouled this man goes to the boy's father and gives him two pounds and then takes the boy home as a catamite.<sup>68</sup> He feeds him and sleeps with him until the day of the mouled. On the day of the mouled the man gives the boy fine womanly clothing and takes him to the garden. This boy dances before the party and gives his master drink. This mirth continues until late in the evening when they return to Sidi Soliman with their drums and pipes and torches. They stay near Sidi Soliman until the morning, dancing and singing.

This performance is kept up for three days, but on the second and third days it is held far from Sidi Soliman. The darwishes of Sidi Soliman hold a thikr throughout the night, while the Medani and Senoussi hold their special thikrs and the Koran is recited.

If the mouled is not held the people believe that an epidemic of infectious disease will come upon them and deaths will result. If there is an epidemic, a mouled is held at once and the disease disappears.

**Yearly Feasts.** The principal feasts are those of the two Bayrams and of Ashoura. In the feasts of the two Bayrams the people make cakes, boil eggs and stain them red, and exchange visits.<sup>69</sup>

The feast of Ashoura is the most important.<sup>70</sup> The people decorate the roofs of the

<sup>67</sup> It is claimed that the saint permits this indulgence in strong drink — the usual intoxicant is palm wine — at his annual festival.

<sup>68</sup> The subject is not one on which it is desirable to dwell, but pederasty is too prominent a feature in Siwan society not to be noticed here. The local explanation of the origin of this flagrant evil is that it originated on the desert roads by which Siwah is reached, and on which women seldom travel. As a further excuse the unattractiveness of the Siwan women is emphasized by the men. Until 1909 arrangements between men and boys were openly made by go-betweens, who followed much the same tactics as does the Egyptian match-maker in promoting marriages. The boy received an initial present of ££ 5 or 6 — a fee which contrasts strongly with the bride price of ££ 1 to 2. The age limits range between 9 or 10 and the time when the boy marries. Men may have, in accordance with Moslem law, four wives at once; but Siwan custom allows a man but one boy to whom he is bound by a stringent code of obligations. The Siwan women can hardly be blamed, under such provocation, if, as is frequently the case, they revenge themselves on their husbands by the aid of the male slaves.

<sup>69</sup> The two Bairāms are called in Egypt "the Great Festival" and "the Little Festival". The former lasts for the three days following Ramaḍān (*el-'Īd es-Sogheyr* or *Ramaḍān Bairām*); the latter takes place on the tenth of el-Higgah, the last month of the lunar year (*el-'Īd el-Kebtr*, *el-'Īd el-Kurbān*, or *Kurbān Bairām*), and is the central holiday in the Moslem calendar (cf. T. P. Hughes, op. cit., p. 192 sqq., s. v. "Īdu 'l-Azhā"). Both in Egypt and at Siwah these festivals are attended with a general house-cleaning and the donning of new or fine attire; cf. C. V. B. Stanley, op. cit., p. 21; E. W. Lane, op. cit., p. 479 and 487.

<sup>70</sup> 'Ashūrā falls on the tenth of Moharram, the first month of the lunar year. Although kept by the eastern Sunnis as a feast (cf. T. P. Hughes, op. cit., p. 25, s. v. "'Ashūrā"), it is observed throughout North Africa as a feast-day, beans being so generally eaten on this occasion that it is often called the *'Īd el-Fāl*. E. Doutté, op. cit., p. 496, 525 sqq. has pointed out that the 'Ashūrā was originally fixed by a solar, and not by a lunar, date, and that in North Africa many agricultural rites have become attached to its celebration, converts to Islām readily transferring to the

houses with palm fronds four or five meters in length, and attach torches to these fronds. On the night of Ashoura all these torches are lighted, while the young boys and girls sing "Eedi, eedi, ya hamoudi fok djiridi."<sup>71</sup> They are given presents of fruit, sweets, pigeons, all of which are hung on a frame work made of palm branches. The palm branches are stained red. The illumination of the town, accompanied by the singing of the boys and girls and by the intoxication of the fellaheen continues for three nights. On the last night they sing:

عشوراء راح بما باع اشالله [عما كسر كينا ناغ

"Ashoura has left us; we hope that it comes next year  
and finds us healthy and all living."

Previously (i. e. about 50 years ago) the celebration lasted for seven days. All of the people used to ascend the roofs of the house to dance and sing, while now only the children do this.

**Springs and Wells.**<sup>72</sup> The springs and wells are generally inhabited by ginnns.<sup>73</sup> Those

beginning of the newly accepted lunar calendar those popular customs with which they had been wont to usher in their solar year. The 'Ashûrâ is an important festival in Khargah and Dakhlah. "On this day everyone receives a present as on our Christmas day. A girl is given a pigeon, a boy a chicken, a woman the hen of a turkey, duck or other big bird, according to the wealth of the family, while a man receives a cock bird of the same species. All the eggs in the village are saved up for this feast and for a week before it is almost impossible to buy any. The eggs are colored and hard boiled and used by the people to pelt each other with in the streets. A kind of game also is played in which two people knock their eggs together — the egg which breaks first being taken by the owner of the stronger egg. At night all the doors in the village are left open, as the natives believe — as they do in the Nile Valley — that on this evening a mule laden with gold "baghallet el ashâr" (the mule of the 10th) travels through the country and may enter one of the houses"; W. J. H. King, op. cit., p. 166.

<sup>71</sup> Dr. 'Abd Allah here appears again to be copying C. V. B. Stanley (loc. cit.) who gives this refrain as "Eedi, Eedi, ya hamudi, Fok Djiridi." This appears to be meant for the Arabic

أيدي أيدي يا حمودي فوق جريدتي

"My hand, my hand, O Hamûdi, is above (or on) my palm frond!"

unless جريد is to be taken in the rarer sense of *completus annus* instead of *ramus palmar foliis nudatus*. Captain Stanley (loc. cit.) gives these additional details for this 'Ashûrâ rite: "It is customary for friends to exchange at this season what are almost exactly like our Christmas trees.... They differ for boys and girls. The girls' tree, called the Busbasa (window) is a square framework of palm branch erected on a stout pole in a horizontal position. To the corners and along the four sides are fixed torches, and the framework is hung with presents of fruit, mint, sweets or pigeons. The boys' tree, the Zarabya, is decorated in the same way, but the framework is in the shape of a cross. Both have patterns worked on them by stripping the bark and staining the exposed surface with Inab el Dyb, or pomegranate juice." The word *busbassa* calls for comment. It does not mean "window", the Siwan for which is *altn* (lit. "eye"). Nor is it credible that it is, as G. Steindorff affirms (*vide supra*, note 40 *ad fin.*), a special interrogative. Its use in connection with divination by a burning palm frond dummy and with lighted palm frond standards suggests a connection with palm fronds, or some object made from them. A consultation of the Arabic lexica under *bs*, *bbs*, *bs*, *bbs*, and of the *Berber* dictionaries, seems to yield nothing conclusive.

<sup>72</sup> *Vide supra*, n. 29; *Voices and*

<sup>73</sup> The Siwan ginn  
Some say that the  
Thunder and lightning

well-disposed, while others are malignant. All are capricious and to be feared.  
ir: those that dwell underground are some of them good, some of them evil.  
whips of the kindly ginn when angered. The ginn haunt desert places,

who have seen these ginns say that they appear either at night or Friday noon<sup>74</sup> at the time of prayers when all is quite still. The ginns take different forms. One who inhabits Ain Tamousy appears as a large and tall palm tree in the midst of the spring. When this tree disappears in the spring the water boils.

If a woman cannot find a husband she goes to a spring called Ain Ahmed, just at the time of praying on Friday noon. She runs to the Ain and dives into it with her clothes on. When she comes out she runs to the grave of a sheikh called Sidi Shouki and passes over the grave seven times saying:

يا شوكي جيتك زبور  
حزني راجل قلد زور

"Oh Shouky! I came to visit you: you ought  
then to marry me to a nice man!"

Not more than seven days pass before she is married.

**Hills and Rocks.** Hills and rocks are also inhabited by ginns, but these are mischievous,<sup>75</sup> whereas those of the springs are not generally so. These ginns take the negroes prisoners. The negro who is taken prisoner is generally a tall strong man, who drinks and does harm to his fellows. Before taking him prisoner the ginns make him mad. One day he goes into the hills and suddenly disappears under the ground.<sup>76</sup>

and make music there. The kindred *'afarit* often live in wells, whence they emerge as animals whose bulk grows to titanic size. All this tallies pretty well with the manner in which the ginn are viewed at Tlemcen, where it is held that these spirits are not necessarily evil, but that they are dangerously uncertain in their tempers; A. Bel, op. cit., p. 222. In Morocco the bad ginn are much more in evidence than the good ones; E. Westermarck, *Nature of the Arab ginn*, p. 255. The haunts of the ginn, according to Moroccan ideas, are rivers, woods, the sea, ruins, houses, springs, drains, caves, and other underground places; Ibid. p. 253. The modern Egyptian believes that the ginn haunt waste places, ruins, wells, baths, ovens, and latrines; cf. E. W. Lane, op. cit., p. 222 sq. Similarly the Moors of Tlemcen suppose the ginn to frequent especially all dark and damp places — caves, baths, springs, wells, latrines, rubbish heaps, etc.; A. Bel, loc. cit.

<sup>74</sup> African noon, with its oppressive heat, its distorting sun glare, and its strange silence, is naturally an hour when the ginn may be supposed to be astir, while men are drowsing. In Morocco the ginn seldom appear before the dark; E. Westermarck, op. cit., p. 253; 260.

<sup>75</sup> This does not appear to be the opinion current in the Nile Valley, where we find hills which are regarded as being charged with a beneficent *baraka*. Such a hill exists near the site of the ancient Antinoëpolis. It is now called Sheykh 'Abâda, and "childless women come from long distances in order to roll down the southern face of the hill. The act is repeated seven times, and each time a certain stone must be reached, failures not counting in the series"; J. de M. Johnson, 'Antinoë and its Papyri' (Egypt Exploration Fund's Arch. Rep. for 1913-1914, London, p. 169, n. 2). What looks like an Islamized reminiscence of a practice of this sort is described in an Arabic history of the Fayûm, containing the following passage: "Now Bahnasâ was visited by some holy men of 'Irak, and by Abû 'Aly en-Nawawi. And we may mention how the latter, after reaching the place, used to put off his clothes and roll in the earth, exclaiming 'O earth, whose dust rose so long for the cause of God!'" Moḥammad Ibn Moḥammad el Mo'izz, *Futûḥ al-Bahnasâ*, trans. E. Galtier, *Mémoires... de l'Institut français d'archéologie orientale du Caire*, Cairo, 1909, vol. 22, p. 3. The sanctity of the soil of Behnasâ is of course here held to be due to the victories of the early Moslem invaders who there lie buried.

<sup>76</sup> In Morocco there is a well-known ginnlah named 'Aisha Kandîsha. She lives in rivers, in wells, or in the sea. Not only does she kill men but she is said sometimes to eat them also. At Tetuan the people say that she lives in a river outside the town at a place where there is a ruined bridge. She seizes and kills people who bathe there, and every year three or four men are said to fall as victims to her in this way; E. Westermarck, op. cit., p. 259.

**Sun, Moon, and Stars.** These are consulted by the men who make charms for prognosis in the case of disease or for telling the future. The ordinary Siwi does not pay any heed to them.

**Graves.** Graves are also inhabited by the ginns and afrits, and no one dares to sleep by himself close to a grave. A man's forehead and arms are frequently used by magicians in their magic, and therefore the rich hire men to sleep on the graves of the dead for three days to prevent its resurrection.<sup>77</sup> When the body putrifies it is no longer useful for magic, and so there is no need of a guard for more than three days.

**Ginns and Afrits.** In addition to the places mentioned above these spirits live in shallow pools and for this reason the Siwi never drinks from a shallow pool. Moreover these spirits may pass into the body of a man in many ways, the most common of which are through his drinking from a shallow pool, or passing over a drain<sup>78</sup> at night. A certain drain is known in the town to be inhabited by ginns.

When ginns enter into a man's body<sup>79</sup> they must be persuaded to come out, because they always make the invaded subject ill. The sheikh is consulted. He reads the Koran<sup>80</sup> in front of the man, burns incense, and then the ginn begins to speak. He is asked his

<sup>77</sup> Corpses play an important rôle in North African black magic. The dead being unable to speak, to see, or to hear, can transmit these disabilities. An unfaithful wife may, therefore, use pieces of a cadaver, or objects that have touched a corpse, in magical rites designed to close her husband's eyes to her misconduct. The dead matter may even be used in contagious magic to cause the death of living persons. At Blida a faithless wife, accompanied by another woman to help her, goes to the cemetery, where the pair disinter a corpse that has been buried that same day. They place the body in a sitting posture, in which one of the women holds it while the other takes its hands and prepares food with them. If the unsuspecting husband partakes of this food, it is thought that he will be as submissive to his wife as the corpse itself — on the whole as repulsive a piece of black magic as can be found in the Moghreb; E. Doutté, op. cit., 301 sqq. Other ideas concerning the magical influence of the dead obtain in Egypt, where popular belief yet reflects the influence of Osirian religion, with its faith in the resurrection of the flesh. Influential Cairene ladies, until within a few years ago, used, when wanting children, to gain admission to the dissecting rooms of the Khedivial School of Medicine, where they would walk round the cadavers, touch them, and even, on occasions, steal portions of them. Native women frequently visit the Museum of Antiquities at Cairo in order to walk round the mummies as a cure for barrenness, just as they circle the Pyramids with the same object. Some years ago the Moḥammadan caretaker of a Moslem cemetery in the Delta was convicted of severing the arms of male corpses and selling them to peasant women desirous of having offspring. The women used to hide the arms under their beds unknown to their husbands.

<sup>78</sup> *Vide supra*, n. 73.

<sup>79</sup> According to a MS. obtained from a Moroccan magician "the Sunday ḡnūn will attack a man if he wash himself whilst perspiring; the Monday ḡnūn, if he walk on ashes at night; the Tuesday ḡnūn, if he walk on blood; the Wednesday ḡnūn, if he walk in a watery place; the Thursday ḡnūn, if he tread upon them in the dark; the Friday ḡnūn, if he walk in dirt; the Saturday ḡnūn, if he goes out at night in a state of perspiration"; E. Westermarck, op. cit., p. 259. The reader will recollect that in Arabic the common term for a lunatic is *magnūn*, i. e. one who is ginn-struck or be-deviled.

<sup>80</sup> In Morocco the so-called Gnawa are supposed to stand in an especially intimate relation to the ginn and are frequently called upon to expel them. E. Westermarck saw some of these practices at Marrākesch, when one of his servants feigned sickness. A magician from Sūs who was called in pressed the man's thumb, pinched his ear, and whispered into it passages from the Kūrān. He assured Westermarck that it was sometimes necessary to continue such whispered recitations for hours before the evil spirit would take flight. Passages of the Kūrān are also written upon paper, which is black or colored in accordance with the color of the ginn, and which is then hung round the patient's neck, or burnt before his nose. In the latter case it is the smoke from the burning paper that expels the ginn. E. Westermarck, op. cit., p. 257 sq.; cf. E. Doutté, op. cit., p. 222 sqq.



name,<sup>81</sup> and his reason for entering the man. The ginn begins to blame the man and the sheikh asks his pardon and persuades the ginn to leave the man saying that he is poor, harmless, etc. Then the ginn leaves him. During the whole time of the obsession the victim is unconscious.

Sometimes the ginn merely hurts the man by letting him fall on his leg, arm, or head. In such cases old women assemble together and burn incense and make a large porridge, some of which they eat, and some of which is reserved for the angels. While they eat, they pray, asking the pardon of the ginn. If, when they come the next day, a part of the reserved porridge is found to have been eaten, this is considered a most efficacious medicine for the patient and the rest of it is given to him to eat.<sup>82</sup>

**Birds and Animals.** The owl is the bird of ill omen. If it hoots on a house, some misfortune will happen to the inmates of that house. On the other hand the cuckoo brings good luck and the Siwiah always hang it in the granary so that the granary may never be empty.<sup>83</sup>

<sup>81</sup> In parts of Africa Minor, as in Arabia, the ginn are lacking in individuality, their characteristics being rather those of a species or of a tribe, each class having its own color, and even its own religion. Cf. E. Westermarck, op. cit., p. 259; W. Robertson Smith, *Religion of the Semites*, London, 1907, p. 121. At Tlemcen the ginn are named after their various colors, *el-Ahmar* ("the Red"), *el-Afkar* ("the Yellow"), etc.; A. Bel, op. cit., p. 222; cf. some of the names in the charm cited by E. Doutté, op. cit., p. 120 sq. Some of the negroes of North Africa have brought with them from the Sûdân the names of various demons and spirits who in their new home appears as ginn; J. B. Andrews, *Les fontaines des génies* (Seba Aïoun); *croyances soudanaises à Alger*, Algiers, 1903, p. 26 sq.

<sup>82</sup> According to Captain Stanley, who describes this ceremony, the porridge is eaten in silence, and when the incense is burnt, the oldest woman speaks an incantation to persuade the "Melaika", or good spirits, to remove the sickness, trying to stir the compassion of the ginn by dwelling on the virtues and poverty of the patient. Captain Stanley further adds that "if the patient is unconscious, his clothes are taken with a sum of money to the Wakeel of Sidi Sliman, who sleeps with them under his head for a night. This does the patient a power of good"; C. V. B. Stanley, op. cit., p. 29. It may be added that the Siwans believe that in his stumbling the patient has injured one of the ginn, an idea not unknown in Morocco; E. Westermarck, op. cit., p. 254. Captain Stanley might have added to his account that when the sick man is unconscious, and his clothes are taken to the *wakl* of Sidi Slimân, the *wakl* prays and then sleeps on the clothes, assured that the spot where the man stumbled will be revealed to him in his dreams: this, at least, is the procedure as related to me by Seyyid 'Abd Allah, a Siwan, in 1910. Similar rites, displaying much variation in detail, are known elsewhere among the Berbers. In Morocco "a dish of fish or meat is prepared without salt. Part of it, together with some saltless bread, is eaten by the patient, and another part is put on a plate and taken by a black woman to some place haunted by ġnûn. She also takes with her in her basket, a piece of looking glass, a miniature flag in seven colors, some sort of clumsy doll, and a copper coin, together with some burning charcoal and incense. Besides the patient, the other members of his family may also partake of the dish but, if they partake, they ought to salt what they eat. The woman who carries the basket must not speak to anybody she happens to meet, for otherwise the ġnûn may go into her. Generally some hungry dogs eat the food after the black woman has gone away. In Ebnt Hlu, again, the practice is to kill a cock, boil it, and to put its boiled flesh into a dish of suksu. The dish, when thus filled, is surmounted by the feathers of a dead cock, care being taken that none fall off. After the patient has tasted the dish, an old woman carries the rest to some spring which is haunted by ġnûn, and on the following morning, if the food has disappeared, the feathers are brought back to the house, and burnt, and the patient inhales the smoke. If, on the other hand the food is left untouched, there is no hope of his recovery"; E. Westermarck, op. cit., p. 256. The essence of such rites in their simplest form seems to lie in the fact that the food, which by the exclusion of salt from it is obviously designed for the ginn, either serves as a food bond between the patient and the spirits, or else catches their "holiness" when eaten by them. In the latter case the "holiness" or *baraka* is conveyed to the patient by some such process as burning in his presence the feathers with which the dish was decked. E. Westermarck offers a more detailed explanation (op. cit., p. 257).

<sup>83</sup> The little wag-tail, *hagg-mawlah*, is also auspicious.

If a donkey brays ten consecutive times near a house, one of the inmates of the house will die. Similarly if a dog barks his usual bark near a house when he sees the moon, someone in that house will die.

Ginns and afrits sometimes take the forms of animals. If they find that a man is not afraid of them in this guise, the ginns leave him, but if he is cowardly they hurt him.<sup>84</sup>

**Food.**<sup>85</sup> If a man eats milk and fish together he gets the skin disease called taenia. The Siwah are very poor and they eat everything, even dead animals.

**Iron.** Although they have no superstition in regard to other metals they believe that the ginns are afraid of anyone who carries iron.

**Oaths.** The Siwah swear by God, by the Prophet, by the Koran, by Sidi Soliman, by Sheikh Sennousy, or by Sheikh Madany. In the case of the first four oaths they may lie, but if they swear the last two oaths they must tell the truth.

**Magic at Siwah.** The authorities on magic in Siwah are the old women.<sup>86</sup> They use their magic in curing diseases, in making love philtres, and in doing mischief. They do extraordinary things such as washing themselves with milk, going to the grave in the night, prowling about the desert, etc. They have authority over the ginn and the latter serve them. The chief mischief that they do is to make a man ill, mad, or impotent. There is the man who is impotent only in the presence of the wife; and there is impotence brought on by the fact that at the moment of coition the man does not see his wife.<sup>87</sup>

In order for the magic to be effectual, a part of the man's clothing must be procured. It is also necessary to know his name, his mother's name, the name of his wife or mistress, and the names of her mother and grandmother.

There were men in Siwah who used the Koran as a basis for their magic. But these have disappeared or died.

All the Siwans believe in the evil eye, and in order to protect their houses from it they put donkey's leg bones and broken pots over their doors [fig. 9].

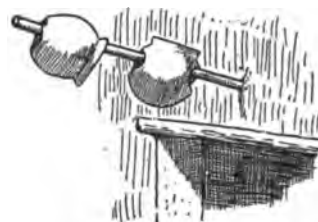


Fig. 9.

<sup>84</sup> In Morocco a man seized with a sudden fear is peculiarly liable to the attacks of the ginn. If, for example, any one falls ill after having been frightened by a cat or a dog in a dark place, the animal is held to have been a ginn and the man's illness is explained by saying that the ginn entered into him; E. Westermarck, op. cit., p. 254.

<sup>85</sup> Garlic is eaten in Siwah only once annually, and then with an idea of insuring health for the whole ensuing year. About the end of October or the beginning of November, the people make up parties, the sexes keeping separate, and go out of the town to the various gardens. For three or four days they eat garlic, consuming enormous quantities of it. For the rest of the week they eat only meat, with some bread. During the remainder of the year garlic is not eaten, even as a seasoning, though it is used medicinally. Cf. C. V. B. Stanley, op. cit., p. 11, *supra*, n. 61. No notice of Siwan food and drink, and of the ideas associated with them, would be complete without referring to the great consumption of tea in the Oasis, and the ceremonial etiquette with which it is drunk. For this, *Ibid.*, p. 22.

<sup>86</sup> Among the Arabs, and to a great extent among the Berbers also, magic, divination, etc. are practiced by women. Cf. E. Doutté, op. cit., p. 33 and chap. 1 *passim*.

<sup>87</sup> Cf. *Ibid.*, p. 288 sqq.

**Songs at Siwah.** All the songs given below are those sung by the men, for it is not easy to collect any songs of women, because they do not come to consult the doctor. The stories were also from men.

### 1. The song while working in the palm trees.

O thou Palm tree, tall and hard to climb! In vain have many people tried to climb you, but could not and died without tasting your fruit. I have climbed you.

(He then begins to complain to the tree, his love, but in this complaint he shows his courage, saying —)

If my illness from love was not severe and was of short duration, I would not have complained, but would have kept it secret. But my illness will last forever, and so will it change and consume me.

(He then addresses his love directly saying —)

O beautiful creature! Thou whom I cannot leave at all, like my inability to put aside my clothing and go bare! Thou for whom I weep the night long, look on me and have pity on my love!

(He then says —)

If you find a blind man do not show him the way; if you find a man doing wrong, do not tell him the right, for every man must taste the result of his acts.

(Then the man — he is from the West of Siwah<sup>88</sup> — says —)

All we Westerners have agreed together. We are strong and ready for fighting. Western Siwah has nurtured (?) us and nurtured (?) our grandfathers. Can any Eastern Siwah come and fight with us?

### 2. Song when intoxicated.

Do not heed my love — let one and all come up to my house.

I drink no spirits, but palm wine is my best drink.

If I went not to you, yet my soul went to you: it has never been absent from you a single day.

(My love says) 'I cannot come to you; my kinsmen are Arabs, and you must win their consent. My kinsmen have keen eyes: without their consent I cannot come.'

O my love, whatever you ask of me, I come running with it.

### 3. Song on drums and pipes.

I do not admire anyone, either in Siwah or elsewhere, except you.

What am I going to do now? My love has left me. He loved me once; but it seemed that my beloved afterwards despised my love and changed.

Pity, pity, O my Love! I cannot say that you are not my love!

I belong to you my Love! I, my sons and my property, all are under your command.

I have made my couch and waited, but my beloved boy did not come.

By Allah, I love this lad. This lad has fine rings on his fingers, and a charming beauty in his face.

<sup>88</sup> Between the West and East Siwahs exists an old and bitter feud, which again and again has resulted in serious faction fights. The origin of this enmity is not known, but despite the outward quiet imposed on the Oasis by the *pax Britannica*, the old hatreds are still alive, such songs as this contributing to keep them green.

My love, I cannot leave you! If it is fated that you must go away, hasten to return again.  
The hair of my love is very long; my love's neck is two cubit's length.

**Stories.** The two stories I collected from men, although men generally know nothing about stories, because they are the property of the women. Good luck brought me in contact with two men, each of whom knew one story.

1. Silence! Silence, my friends! Don't speak at all!<sup>89</sup> A man and his wife with their seven daughters went once to a hill where they found a giant pitching his tent. The woman told her husband to go and see what the giant was doing. The husband did not go to the giant, being afraid of him. He roamed about all day, and when he came back his wife asked him where he had been. He told her he had been sowing wheat and barley, and as a proof of his speech he showed his wife his arms and legs all covered with dirt. Really this was the result of his diving in a well and then rubbing his hands and feet in earth while they were wet. After a time the wife asked her husband to take her to see their field. But the man, who had not planted anything, took her to see a field which chanced to belong to the giant. They began to eat the wheat as if it was their own. The giant saw them, and invited them to visit him. They went into his den. He then ate them all one by one, beginning with the daughters and ending with the husband.

2. The first inhabitants of Siwah numbered only forty. They did not die, nor did they know what death was, nor had they any knowledge of Arabic. Only their chief knew some Arabic. At last one of them died. When he was dead, the rest turned him over and over, but he never stirred. They went to their chief saying; "Mr. So-and-so does not move. Please come and see him." He came and saw him, and told them that he was dead, and no longer useful. They asked him what was to be done with him. The chief said, "Carry him to the south of the town, dig a hole for him in the sand and put him in it. Then cover him with sand, and on the sand lay a piece of palm wood".

After they had buried him, two angels<sup>90</sup> came to the dead man to ask him "who was your God?" He shook his head and said he did not understand what they said. They were speaking Arabic, and did not understand his language. After repeating their questions and getting no satisfactory answers, they told him he was not the only dead man, and that they had a lot of work to do with other dead men. Because they thought he was a Moslem they took him to Mohammad.

The Prophet asked him why he did not answer the two angels. He replied in the Siwan language that he did not understand, nor could he make himself understood. Then the Prophet told the angels that a man was not a Moslem, and they could do what they liked with him. So they took him to Adam, the father of us all. And Adam too asked him why he did not answer the angels, and the man made the same answer in Siwan. And then Adam declared that this man was not one of his sons.

At last the two angels decided to take the Siwi to Satan. They sought for Satan and found him in hell. And they told Satan all that had happened, and Satan questioned the Siwi, who answered as before. And Satan said that the man did not belong to him. But the angels were then enraged at the man, and threw him into hell.<sup>91</sup>

<sup>89</sup> Obviously a regular formula, such as those which so often begin and end European folk tales. For a story beginning with a similar incident cf. E. Laoust, *Étude sur le dialecte berbère du Chenoua*, Paris 1912, p. 99 sqq.; 168 sqq. (*Aventures de deux enfants l'un raisonnable et l'autre idiot*).

<sup>90</sup> According to Mohammadan belief two black angels with blue eyes called *Munkar* and *Nakir* ("The Unknown" and "The Repudiating") visit the dead in their graves to question them as to their faith; T. P. Hughes, *op. cit.*, p. 420, s. v. "Munkar and Nakir."

<sup>91</sup> This story so completely embodies the Arab view of the Stwans that it is almost certainly to be regarded as

Beduin origin. To the Arab the Siwan is a stupid, vindictive, and treacherous person, ignorant of religion, morals, and good faith.

It cannot be denied that there is a certain justification for this view, though the morals of the Beduin hardly warrant their sitting in judgment even upon so depraved and barbarous a population as that of the Oasis. One of the most marked traits in the Siwan character is vindictiveness: a failing well illustrated by an incident which had happened shortly before I visited the Oasis in 1910. A young Siwan, while on a journey, had had a wordy quarrel with an Arab at Marsa Maṭrūḥ. No blows had been exchanged, but the Siwan had been badly worsted by the Arab in a lively exchange of abuse. Two years later the Arab came to Siwah, where the man with whom he had quarreled recognized him in the date market. The Siwan asked him if he remembered him. The Arab answered that he did not. "But I remember you, you son of a dog", cried the Siwan, "you are So-and-so, the son of Such-an-one, may God consume him: and two years ago you cursed me at Maṭrūḥ"—and on the word he slashed the Arab across the neck with his bill-hook and killed him on the spot. The one praiseworthy trait in the Siwan character is industriousness: the men, despite their vices, are really hard workers, and labor in their gardens from before sunrise till nightfall with only a short break at midday.

## ORAL SURGERY IN EGYPT DURING THE OLD EMPIRE

E. A. HOOTON, PH. D., B. LITT.

In examining a group of predynastic, Old Empire, and Middle Empire Egyptian crania in the Peabody Museum, Dr. K. H. Thoma, of the Harvard Dental School, recently discovered a mandible which he thought showed evidence of having been operated upon for the relief of an alveolar abscess. Dr. Thoma showed the specimen to me. I was at first somewhat skeptical regarding it, as I had never observed an indication of a dental operation in the crania of any ancient or primitive people, except for purposes of ornamentation. The simple expedient of extracting a decayed tooth in order to drain an abscess at the roots seems to have been unknown, according to the evidence of countless prehistoric crania. Dr. F. Wood Jones<sup>1</sup> in speaking of diseases of the teeth among the ancient Egyptians, says: "At no period do the teeth of any body show signs of the dentist's handiwork. It is often said that the evidence of conservative dentistry are freely seen in the teeth of mummies: these we have not met with, and the statements are probably explained by the finding in the oral cavity of pieces of gilt from the facial adornment of the dead."

In the mandible in question there are no external evidences of an alveolar abscess except two holes in the buccal surface of the right side of the mandible: one between the roots of the second premolar and the first molar, a little above the level of the mental foramen, the other at a slightly higher level between the roots of the first molar. Dr. Thoma radiographed the specimen and the plates clearly indicated an abscess in the corpus where the holes entered (figs. 1, 2). This led me to a further investigation. Fortunately the right ramus of the mandible has been broken in such a way that the infected

<sup>1</sup>G. Elliot Smith and F. Wood Jones, *The Archaeological Survey of Nubia, Report for 1907-1908*, vol. 2, Report on the human remains, Cairo, 1910, p. 283.

area was revealed when the mended specimen was taken apart. A close examination confirms the correctness of Dr. Thoma's diagnosis.

The mandible is Peabody Museum cat. no. 59303, belonging to a fragmentary skeleton from an Old Empire tomb excavated by G. A. Reisner at Giza. (The original number in Dr. Reisner's records is G  $\frac{1011}{2371}$  G.) The jaw is that of a middle-aged male, and belongs to the heavy square-chinned type with tall rami that is designated by Professor G. Elliot Smith as "the Giza type". The teeth are all very much worn down, not evenly, as Wood Jones states to be the usual case in predynastic jaws, but in such a way that the crowns of the teeth are hollowed in the case of molars and premolars, and beveled in the incisors. The first molars show the most wear, and in the right a small channel leading down into the pulp cavity has been exposed. It was doubtless this exposure of the pulp cavity that led to the formation of the abscess about the roots of the tooth. Two holes in the buccal surface of the horizontal ramus communicate with the cavity in the alveolar process made by the absorption of tissue due to the abscess. The one between the roots of the second premolar and the molar is 20 mm. above the lower border of the jaw, measuring from the lower border of the hole. The hole between the roots of the first molar is 22 mm. above the lower border of the jaw, and the two holes are 3 mm. apart. Each is round and 2.5 mm. in diameter. It will be observed from fig. 4 that the posterior hole is surrounded by a circular depressed area which is 10 mm. in diameter. I was at first of the opinion that this depressed area, which shows some evidence of absorption, was due to the bruising of the bone caused by the pressure or friction of the disk-shaped butt, in the center of which the drill point was fixed. I have now abandoned this view because the anterior hole is not in the middle of another such depression, but just within an extension of the periphery of the depression which surrounds the posterior hole. Moreover it is improbable that a short drill fixed in such a haft should have been used. A close examination convinces me that the explanation of the depressed area is as follows. When the individual was suffering from the abscess an attempt was first made to relieve it by boring the anterior hole between the first molar and the second premolar. This hole was bored downward from angle of about 15° with the sagittal plane. The result was a cleanly cut round hole, which passes downward through perfectly sound tissue, and taps the lower anterior border of the abscess, but in such a way that the pus could not have drained out through the hole. As this measure was ineffective another hole was bored a little higher up and farther back, between the roots of the molar. This penetrated into the middle of the abscess, and the pus discharging absorbed some of the tissue of the walls of the hole, and spreading out, infected a certain area about the aperture, making the circular depression referred to.

Neither of these holes could have been the result of the abscess eating its way naturally through the lateral wall of the alveolar process and so discharging because; a) the direction of the holes is upward at an angle of about  $15^{\circ}$  from the vertical and not horizontal as it would be in case of a pathological absorption; b) the abscess has not eaten its way through the alveolar process because the anterior boring goes through a thickness of 2.5 mm. of sound tissue before reaching the infected area, and the posterior hole passes through 3 mm. of sound tissue. Moreover, there is perfectly sound tissue between the external surface of the alveolar process, where some absorption has occurred from the discharging pus, and the main abscess, although the walls of the second boring, through which the pus discharged, show absorption.

Fig. 3 shows the mandible of P. M. cat. no. 58951, a predynastic Egyptian from Kenh, with an alveolar abscess at the roots of the right second molar. The abscess has discharged through a round hole in the buccal side of the alveolar process opposite the middle of the posterior root. That it is an instance of a hole due to the absorption from within is seen from the undercutting and thinness of the edges. It obviously could not have been bored.

As may be seen from figs. 6, 7, of the Old Empire mandible under discussion, the abscess affected principally the area about the roots of the molar. The operator with considerable skill bored his holes in such a way as to avoid the roots of the teeth.

When first I saw the specimen it occurred to me that the anterior hole might be a supernumerary mental foramen. Such supernumerary foramina in the neighborhood of the mental foramen are not very uncommon. There is usually in such cases a medium-sized or large mental foramen and a very minute foramen a few millimetres above it, in front of it, or, more rarely, behind it (figs. 5, 6). I have not been able to find any instance in which the supernumerary foramen attained any such size as does the anterior hole in our specimen, which has a greater diameter than the mental foramen. Mental foramina vary greatly in size and position. Sometimes they are situated beneath the level of the second premolar, sometimes between the first and second premolars, and sometimes between the first molar and the second premolar. In some instances they are large, sometimes very small; they usually enter the horizontal ramus at an acute angle, and the course is not straight nor the diameter invariable throughout. Usually the edges of the foramen are not sharp but rounded. The anterior hole in our specimen is a perfectly round cleanly drilled hole, with sharp edges. I may add that it would be extremely remarkable to find a supernumerary foramen bearing the precise relation to an alveolar abscess that is seen in the case of this hole.

The evidence of this specimen seems to establish beyond a reasonable doubt the



existence of a rudimentary knowledge of oral surgery in the Old Empire. In examining the specimen above described I have had the assistance of Dr. F. H. Blumenthal of the Harvard Dental School, who concurs in the opinion which I have stated. Dr. Thoma is to be congratulated on his discovery.



1. BUCCAL ASPECT.



2. LINGUAL ASPECT.



3. PREDYNASTIC MANDIBLE, P. M. 58951.



4. OLD EMPIRE MANDIBLE, P. M. 59303.

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5. GUANCHE MANDIBLES SHOWING SUPERNUMERARY MENTAL FORAMINA, P. M. 59577.



6. SECTION OF HORIZONTAL RAMUS.



7. OLD EMPIRE MANDIBLE, P. M. 59303.



**WORSHIP OF THE DEAD**

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THE STATE OF TEXAS, COUNTY OF DALLAS, ss. I, the undersigned, a Notary Public in and for said State, do hereby certify that the foregoing is a true and correct copy of the original of the same, as the same appears from the records of said County.

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and are reserved for the male sex. The married women, even the wives of the head of the household happens to reside. Their manner much simpler than that used in the West, the leave-taking is much less formal, and the deceased woman's brother, when possible her father, attends the funeral, and after the funeral he brings another man and to become the wife in her stead. This

sacrifices they entail, is without doubt the belief that the soul is immortal and that the ghost has power to bring about events in the daily life of the survivors which may materially affect them for good or for evil, according as the ghost happens to feel well or ill disposed to them. The reasonings of primitive man revolve around the concerns and interests of life as he knows it; his own likes and dislikes are taken as his guide to the conditions which will make the ghost's lot pleasant or the reverse: hence his actions in regard to the ghost and his mode of worshiping it are suggested by what he finds gratifying to himself in this life and what he therefore considers most likely to meet the needs of the ghost.

For a concrete example let us first examine the practice of some of the agricultural tribes. The Baganda, living on the northwestern shore of Lake Victoria Nyanza, throw open their sick-chambers to all friends and relatives, who are invited to come and see the sick man. These people realize that it is imperative that they should visit the sick, or, if unable to do so in person, should send some responsible representative lest their absence should suggest that they themselves were the cause of the illness, and should imply a desire on their part that the sick man die. The hut of a sick man is full of visitors who talk freely about all kinds of commonplace subjects quite irrelevant to the case, while from time to time they pass a few remarks as to the condition of the man, and condole with him if he is in pain. When death takes place, these friends leave the hut to the widows who set up the death wail. Their cries consist of words belauding the dead husband. Often they hold up to view various garments and ornaments he gave them and ask who is to supply them now, unless he returns to their help. Frequently, too, they throw themselves upon the dead body in their frenzy, allowing tears to fall freely, and often discarding outer clothing as they rend the air with piteous cries of woe and beat their hands upon their breasts. These same women may be found shortly after talking cheerfully with friends outside the hut, and they will a little later relieve their companions in woe and continue their wailing with the same tokens of uncontrollable grief as before.

The chief widow is usually mistress of the ceremonies in preparing the body for the grave; she closes the eyes of the dead man, crosses his arms over his chest, or in other instances lays them along the sides of his body, straightens the legs, and ties the great toes together. The next act is to wash the body and cover it with a new bark cloth. It is then moved to a resting place, which is a bed made by placing the trunks of plantain trees side by side, to the width and length required, reversing every second layer added, until the required height is attained. A portion of the reed wall which divides the room into compartments is now cut, laid upon the plantain tree trunks, and covered with a bark cloth, upon which the body is then laid, with the head towards the door. This bed is made near the door of the hut, leaving room for a person to walk round it. The relatives of the dead man are next summoned to a farewell-taking, which often delays the funeral

rites some hours because the relatives may live at a distance, and require time to hear of the death, and arrive upon the scene. It is, moreover, considered necessary to summon as many members of the clan as possible to pay honor to the ghost. When all have assembled and all is ready, a number of thin sponges made from the pith of the plantain stem and beaten to the consistency of thick brown paper, together with a pot of butter, are laid on the bed near the head of the body, the face of the dead man is uncovered, the relatives file in, and each one looks upon the face for a few moments, rubs a little butter with the tip of a finger upon the forehead of the dead, then wipes the hand on a sponge, and passes on. In this manner all the relatives and friends take leave of the dead. After this the widows gather on one side of the bed and the eldest son takes his stand on the other side; one of the senior members of the clan uncovers the hands of the dead man, turns the palm of the right hand upwards, and places in it a few pumpkin seeds which the son takes with his lips from it, munches, and puffs over one of the widows. This woman ceases then to be a widow; she leaves the number of her companions, and goes to the home of the son, who becomes her husband. After this ceremony the body is covered and is ready for burial.

The Baganda are very particular concerning their places of burial, which are almost entirely devoted to the male members of the clan. No person belonging to a clan with a different totem may be buried in a family graveyard. The custom is to keep these grounds to each family; they are guarded and cultivated by special members of the clan, and the principal man of the family, known as the father, usually lives on the estate. These burial grounds are the only freehold lands in the country, all other land belonging to the king (who is, however, unable to sell or to give it away, so that it may revert intact to the state at his death for the use of the succeeding king). In the case of burial grounds the law of ownership is different, and it can only be accounted for by the belief in ghosts and by the fear the king has of offending them, that the graveyards are acknowledged to be the property of the clan. It is also a fact that the clan alone is held responsible for the conduct of the dwellers on such estates, and pays the taxes to the state. The area of an estate of this kind often assumes large proportions, sometimes being as much as eight square miles.

These burial grounds are the homes of the ghosts, and are reserved for the male members of the clan and for unmarried women. Married women, even the wives of the king, are buried in any part of the country where the husband happens to reside. Their companions prepare the body for the grave in a manner much simpler than that used in the case of a man. The body is seldom washed, the leave-taking is much less formal, and the mourners are fewer in number. The deceased woman's brother, when possible her uterine brother, takes charge of the ceremonies, and after the funeral he brings another sister to be heir to the deceased woman and to become the wife in her stead. This



woman is usually the only person who remains to mourn and fulfil the duties of caring for the grave. She allows her hair to grow long and never cuts her nails until her brother declares the mourning is ended. She seldom goes through the formal daily mourning at the grave, but she does not join in any festivities until the mourning ends. Should the husband leave the place, the grave is neglected unless the brother pays occasional visits, perhaps because some medicine man attributes sickness among his children to the sister's ghost.

The king's mother and princesses are treated as men and have their graves in the country reserved for the burial of kings.

It often happens that a member of a clan dies at a distance from the burial ground, but the other members willingly carry the body to the place of burial.

In no instance may two bodies be laid in the same grave. Even when a woman dies in a pregnant condition the foetus is removed and buried apart from the mother. In the burial ground ample room is left round the grave to keep a clear space free from growth of vegetation. One or more widows are chosen to take care of the grave, one (at least) of them being the mother of children by the deceased. This woman lives near the grave and is given sufficient land for growing food to support herself. Her duties are to attend to the grave, to keep the mound from crumbling away, or, should it be a thatched grave, to keep the thatch in good condition, and to keep the space round the grave free from weeds or other growths. If there is a shrine, she carpets the interior with sweet-scented lemon grass, keeps a small vessel of wine in it, and ties offerings of clothing to the rafters inside the shrine.

Graves are dug by male members of the clan who are deputed for this duty while the body is undergoing the funeral preparations. The only implements used in the excavation are a hoe and a basket made from plantain fiber, into which the earth is scraped with the hoe and then lifted from the grave. Graves are pits dug some seven feet long by four feet wide and from five to six feet deep. When the grave is dug it is lined with bark cloth; a comfortable bed is made at the bottom also with bark cloth from the offerings of relatives, and the body is then laid upon it; numbers of bark cloths are thrown into the grave by the mourners and friends who accompany the procession, and are arranged by men who stand in the grave. These bark cloths are often so numerous as to leave little room for the earth, which is now trodden down and a mound built over the grave. It is customary for a grandson to step into the grave after the body is laid in it, cut with a knife a piece of the bark cloth which covers the face of the dead man, and then throw the knife to one of the widows standing near who thereupon becomes his wife and ceases to mourn. The two methods of finishing the exterior of graves are that of raising a mound and that of thatching. The mound, used chiefly by the common people, is of earth raised two feet

high the length and width of the grave and beaten hard to a pointed ridge. The thatched grave, used especially for royalty, princes and princesses, is a heap of grass laid in order the length and width of the grave and some eighteen inches deep, being highest at the head and sloping to the feet. Cords of fiber are passed over the thatch and secured to pegs driven into the earth along the sides, and thus the grass thatch is kept from blowing away. In either case the object is to keep the grave dry because it is considered to be the home of the ghost. At the head of the grave a small shrine is erected in which offerings of bark cloth, wine, fowls, and goats are placed. All living offerings are kept alive and guarded by the widow in charge of the grave. Should anyone kill one of these, it is said that the ghost will resent it by sending sickness to some member of the clan; should one of the animals die, it is replaced. These animals and fowls are called the property of the ghost.

We must here leave the subject of offerings and further worship in order to deal with the important subject of the kings who are deified after death. (The peasants are supposed to be reborn after a number of years and to pass again through the phases of this earthly life.)

Kings of Uganda are never said to die, they remove to another place and phase of life: the term used at death is "the fire is extinct". The funeral ceremonies are of an elaborate character and are quite distinct from those used in the case of common people. When the king dies the fact is kept secret for several days until the preparations for his successor are made. The latter is chosen from the princes and is a son, if possible, or a brother, or a cousin. The death of the king is announced by beating a particular drum with a rhythm well known to the people as the war alarm. The announcement causes the greatest consternation among all classes, the country being thrown into a state of anarchy since peace, order, and law are bound up with the monarch and end with his life. The less powerful classes hurry to hide such wealth as they possess, and the more powerful resort to deeds of lawlessness. The national mourning, a girdle of withered plantain fiber, is quickly adopted, and every one shaves his head and must not thereafter cut either hair or nails during the period of mourning, and for the same period no cultivation is done. The queen takes charge of her husband's body which lies in state in the house in which he died until the new king is elected. The king-elect with his queen, who must be a princess — when possible a sister of the new king and daughter of the deceased — is escorted to the house in which the body of his predecessor lies. On his arrival he covers the body with a royal bark cloth. From the death chamber they proceed to a special hill where the king stands upon a fetish which is supposed to make him powerful and impart to him wisdom; there he is proclaimed king and thence he proceeds to an appointed place for the purpose of mourning the deceased king. It is no barrier to the custom of mourning should the new king have been the immediate cause of his predecessor's death; he may have been his actual murderer,

still he proceeds to observe the rules of mourning and to exhibit every mark of sorrow for the loss of the late king.

After the newly elected king has inspected the body of his predecessor and covered it with a bark cloth, it is taken by a number of men, chosen from the guard of the late king, to the place appointed for the first part of the preparation for burial. It is disemboweled, sponged with plantain wine, and all the juices are squeezed out into sponges of plantain fiber and bark cloth until the body is dry and hard. The men who carry out this work, together with a few widows selected from the harem, drink all the juices expressed from the body, mixing them with plantain wine. The task of mummifying and preparing the body for interment requires six months, the body being moved from place to place as each stage is ended until it is pronounced to be ready for its final resting place. The new king is informed when each stage of the preparation is complete and gives his sanction for the removal of the body to the next place. When the ceremonies are completed he sends his representatives Kago and Sebageanzi, the latter being a brother of the king's mother. These chiefs take a bark cloth made for the purpose and well-smeared with butter, and perform the part of the king in taking leave of the dead by covering the face and body with the bark cloth they have brought. A number of widows who have held special office about the late king, together with a corresponding number of chiefs, are sent to the place where the leave-taking of the dead is performed, and form an important part of the funeral procession. These women are the chambermaid, cupbearer, cook, milkmaid, and the woman who has charge of the royal robes; the men are the chief cook, water-bearer, brewer, and herdsman. The guardian of the fire has already been strangled at the gate of the royal entrance. A man bearing a branch of a tree known as "the tree of the dead" marches in front of the procession and is called "the eyes of the dead". Following him comes a man bearing a hoe and a fowl, then the widows and chiefs, followed by a guard of honor with the body, which is carried feet first, and lastly the crowds of people carrying offerings for the grave.

The burial place of kings is always in the country known as "the Grave County". It is in this district that the royal house of mourning is built in which the new king resides until the funeral has taken place and he is purified from mourning. Each king has his grave on a hill top, where a large hut is built and is surrounded by a high fence with an outer fence a few yards lower down the hill. Between the fences there is a space of some twenty yards. The hut which forms the mausoleum is built of perishable materials, wooden pillars supporting a basketwork frame of reeds which is thatched with grass. The doorway is only four feet high and three feet wide, and has a hood over it forming a porch supported by two wooden pillars. Inside this hut the earthen floor is smoothed level and slightly beaten, and a frame like a bedstead is made for the body to rest upon,

this being about four feet high and covered with bark cloth. The man bearing the hoe digs a shallow pit under the bedstead, which represents the grave. As there is no actual grave, this pit may point back to a time when the entire remains were actually buried. The body is then laid upon the bedstead and the crowds of people press forward with their offerings of bark cloths which are stored and packed into the hut until it is quite full; the pillars supporting the porch are then cut down and the hood falls and closes the doorway. The widows and chiefs are brought and stand round the hut with their backs to it and are clubbed to death, their bodies being left where they fall. In the second courtyard, from four to five hundred victims, slaves and prisoners, are brought and executed, their bodies being left where they fall. A guard remains in charge of the spot with orders not to allow wild beasts or birds of prey to touch the bodies or to carry them off. During the following six months the place is left to the guards and to a number of widows who are appointed to carry out a system of cultivation round the enclosure, to plant plantain trees, and thus prepare the place for their future home.

At the end of six months a chief is appointed by the king to visit the mausoleum and remove the jawbone from the body of the late king; this is then taken for cleansing and decoration, and is finally placed in a temple. The jawbone goes through a prolonged process before it is at last put into the temple prepared for it. First it is put into a nest of ants for three or four days for them to eat off any flesh, next it is put into a well of clear spring water for a day or two's washing. This well is sacred and is guarded for this special purpose. The bone is then dried and afterwards washed with plantain wine and milk. At the close of these purificatory rites it is covered with a leather case made from a lion skin, the outside of which is decorated with beads and cowries called "the money of the ghost". When chiefs are installed they make offerings of beads and cowries which are especially reserved to serve this purpose after the king's death. A wooden basin is carved from a tree trunk with a stand a foot high and almost as wide, and into this the jawbone is put, the basin and its contents being then wrapped in bark cloth and afterwards in leopard's skin. The vessel is then taken and placed in the temple. With the jawbone the decorated stump of the umbilical cord of the deceased king is placed, to fulfil the necessary conditions for deification. The temple is built by the king some time before his death in the grounds of his enclosure; he personally superintends this building and has the work done carefully and well. The temple precludes the succeeding king from occupying the site of his predecessor's palace, and the widows who are to care for the place reside on the spot. Owing to the perishable nature of the structure, the temple has to be rebuilt every five or six years but the size is not so great nor is the workmanship so good as at the first; still these temples are maintained for hundreds of years with their staff of widows guarding them. In the temple a dais is constructed on which

the relics are put on special occasions, this dais being separated from the hall by a number of spears made of iron, copper, and brass, of the best workmanship possible, and with shields standing at intervals between the spears, forming a barrier to keep any person from approaching the dais. The floor of the temple is carpeted with sweet-smelling grass and the dais is covered with some of the finest bark cloths the country produces. Behind the dais a reed screen cuts off a portion of the hall and forms a room for the relics when not exposed to public view. These are kept in a cellar for greater safety, so that, should the building be burned down, they are safe. It is behind this screen that the medium resides and there he carries on his duties of communicating with the dead, conveying messages to him, and, when possessed, giving the ghost's answers. The medium is a man who was in the service of the deceased king, who was in constant contact with him, who at the death of the king was appointed with the selected widows to drink the wine used in washing the body, and who, later, drank the wine used in washing the jawbone. The spirit of the deceased king is said to come upon this man, when, to use the exact words of the people, the king "seizes him by the head". The medium at such times becomes frenzied and talks in rapid tones, using language difficult to understand. The man is said to be entirely under the control of the ghost and for the time being unable to control himself or even to know what he says or does. An interpreter, one of the priests, is present and interprets all that is said. It sometimes happens that the medium foretells things which are detrimental to himself, and he then has to be warned after the spell has passed and he is himself again. These seizures are of short duration, lasting seldom more than an hour, and the medium is free, between the seizures, to act as he pleases and to go about as he will, nor is he at these times restricted to the temple area. To become spirit-possessed, the medium smokes a pipe of ordinary home-grown tobacco and sits gazing into a smoldering fire until the spirit "seizes" him. He tells the departed king he has questions to ask him, then he smokes the pipe, and under the influence of the ghost he gives the king's reply.

The temple of a king is under the management of the dowager queen, whose house is built near the enclosure. In the courtyard of the temple a number of widows continue to live whose duties are to take part in guarding the temple against improper use by visitors, to renew the grass carpet when necessary, to sweep the courtyard, and to cultivate the plantain trees which surround the temple. This plantation is expected to provide sufficient food for the widows. These women are always spoken of as "wives" of the late king, the term "widow" being carefully avoided in their case. Their chastity is a matter of the strictest care, and any transgression of good morals is met by capital punishment. The office of a king's wife may be terminated if one of these women wishes to marry: she can then arrange with the members of her clan to supply another maid of the same totem to take her place. The number of wives always remains the same year after year because,

when one of them dies, the members of her clan replace her by giving another young woman to carry on her duties. In like manner the office of queen is perpetuated because another princess is elected when death removes the former. All the principal chiefs who held office under the deceased king retain their titles and continue their services to the deceased king in the same manner as before, only they surrender their estates and are granted land sufficient to supply their needs. These offices also are of a permanent nature, and when a man dies the clan fills his office by another member of the clan. Thus the temple of a king retains its staff of officers and women as though the king still lived, and it is open to all comers at any time of the day to visit it and pay their respects to the king. In these deified kings we find the origin of hero worship, and the ritual now described gives the best idea of the character of the worship, whether of gods or of ancestors, in Uganda.

We may now turn again to the study of worship of the dead as practised by the common people in Uganda, for deified kings are believed to have their special duties to the state, and to be mostly interested in affairs relating to government, and hence they are seldom appealed to by any but the reigning king for help. When a chief or peasant is buried, his relatives make arrangements for the mourning, which may last six months, or longer for an important chief. During these months the mourners are separated from the community and live in appointed houses near the grave. Regularly at daybreak they assemble at the grave to wail and call upon the ghost to return. One of the number cries aloud and throws himself or herself on the grave, sometimes two or three carry out their lamentation at the same time, while others sit and chat near the grave in the most unconcerned manner; but when one of those wailing tires, another, from among those resting, takes his place and carries on the cry. This is done for three or four hours, when the party return to the house, where they sit or lounge about during the day. These mourners never wash, nor may they trim their hair or nails: their hair grows into tangled masses, and the nails become like birds' claws. Their clothing is old and dirty, tied on the body with a girdle of dry plantain fiber; and often an apron of withered plantain leaves is worn. The house in which the mourners reside is not swept or kept tidy, the skins of plantains which are baked in the embers of the smoldering fire for food being thrown out in front of the door where they lie to rot. The whole place bears a neglected aspect, this being intended to convey to the ghost the sense of loss and disregard of life which the mourners feel. The rule of chastity is carefully observed; any breach would, it is thought, bring direful consequences. The men and women mourners are all of the same clan and, according to their totemic rule, are brothers and sisters and therefore are not likely to break the rule of chastity among themselves; the widows live apart and are guarded so that they cannot transgress, even should they be tempted to do so. When the period of mourning ends one, or on rare occasions two, widows are chosen to remain to take charge of the

grave, while the others leave the place, together with the mourners. From this time the heir with the sons and grandsons have the oversight of the grave. They see that the widow or widows do their work, for should the grave be allowed to become overgrown with grass or the mound crumble away, they believe that they will suffer rather than the widows. They also make periodical offerings of plantain wine to the ghost, and the heir builds a shrine near his house in addition to the one at the grave, for use of the ghost. In this shrine he will place a bark cloth and a pot of wine, from which he will from time to time pour out a little on the floor at the doorway of the shrine. The heir frequently makes requests to the ghost and if he should receive any unexpected good fortune, he will kill an animal by the shrine door, allowing the blood to run over the doorway; the meat from this offering is cooked near by and a sacred meal is eaten by relatives called by the heir to participate; thus the ghost is credited with being the cause of the good fortune and is honored accordingly.

There are special times when the aid of a ghost is sought, such as sickness in a family or some calamity that has befallen them or the clan. The aid of a medicine man is now sought, and he decides which ghost may be accounted the cause and states how peace and prosperity may be secured. An offering of a special kind is made, usually an animal which is kept alive; wine and bark cloth are put into the shrine, and the animal roams about at will and is cared for by the guardian of the grave. Fowls also are often offered by poorer relatives to ghosts and quite a stock of animals and fowls accumulates which becomes the property of clan ghosts. Such offerings are almost invariably females; male animals being seldom offered, as this would be regarded as a slight to the ghost.

Ghosts are expected to be reborn in due course. Each child, when a year old, undergoes a ceremony by which the spirit is tested to discover which family ghost animates it. When this is decided, the grave is left to decay, and worship ceases to that particular ghost. Each clan has one ancestor who is never reborn, and the ghost in this instance receives greater respect than the ordinary clan ghost. To him a temple is built and in some clans a staff of priests and a medium reside there. In such a temple the ghost is deified, and to this place members of the clan frequently go for assistance in all kinds of difficulties. To this place each newly married member of the clan goes with his wife soon after marriage, seeking a blessing on their future life and especially for the gift of children. During the life of a clan member the aid of this clan ghost is sought, and from special medicine men fetishes are obtained, some of which are kept in the house while others are adapted to be carried about on the person. Such fetishes are believed to contain special protective powers derived from the deified ghost. They are treated with reverence and are regarded as of great value in protecting the family. Thus when a man is traveling or is engaged in any punitive expedition, he carries his fetish to protect him. It is incumbent upon a

wife to make daily offerings and prayers to the clan fetish for her absent husband. Any mishap to him, even to knocking his foot against a stone, is attributed to laxity on the part of the wife in her duties, while worse mishaps point to immoral conduct causing the god to withdraw his favor. All such omissions meet with punishment in due time; the husband on his return accuses his wife before a body of witnesses, and unless she can prove her innocence she is punished by flogging.

Among the Basoga, who live to the north of Lake Victoria, there are many features in common with the practices described above; there are, however, a few differences which it is well to mention. The dead man is buried in the house in which he lived. Part of an animal which has been speared to death near the hut in which the body lies is cooked. Some of this meat is cut into small pieces and put in a wooden bowl in the grave, while the rest is eaten by the mourners. The bowl with the meat in it is put into the grave at the feet of the body and is covered with a bark cloth. A second empty wooden bowl is placed under the head of the dead man, the body being so raised with bark cloths that the head hangs over the bowl. Before any earth is thrown into the grave, after the offering of bark cloths has been arranged, the chief widow steps into the grave and, as the first spade of earth is thrown in, she catches a little with her right hand and a little from the second spade with her left hand. This earth she rolls into a ball and carries to the nearest tree, over which she throws it saying, "If they have caught you, fly free." There is always a possibility that death has been brought about by magic and that the ghost is still held captive, and this ball of earth sets it free and enables it to roam at pleasure among its fellow ghosts. The first night after the funeral the mourners sleep round the grave, but afterwards they build small huts round that in which the dead is buried. They remain in them during the period of mourning, leaving the hut with the grave to the widows. Some twelve months after the burial of a chief the ghost is said to appear to one of the relatives and announce his desire to be removed; the new chief, who is the heir, is informed, and orders the grave to be opened and the bowl, into which the skull has by this time fallen, to be brought out. The skull is cleansed, stitched in a piece of cow skin, a second wrapper being of sheep skin and a third of gazelle skin. These skins are damped before they are stitched on, and they become very tight and hard as they dry. The skull is placed in a temple where a medium is appointed to hold communication with the ghost on behalf of any suppliant. The temple is now the residence of the ghost and the burial place ceases to be cared for or regarded with reverence. When the next chief dies and his skull is in due time brought to the temple, the former skull is removed to another place of less importance, where all the skulls of former chiefs are kept, and protected by an appointed guardian, but where there is little worship. The principal time for a general gathering of people to worship is that when the skull is removed to its last resting place. At this



ceremony a number of animals are offered, a white cow, a white sheep, and a white goat. It is important that the animals should be quite white. The medium goes with the animals, taking the skull and a spear from the temple, and resides in the new place. The animals are kept alive and are added to the herd belonging to those of former chiefs.

With these examples of the customs of agricultural people before us we may turn to study some of the customs of pastoral peoples. Here again we shall find similar views held, though there are differences in detail which of necessity occur where occupations so widely differ.

Bunyoro used to be one of the most important countries of this part of Africa, extending along the river Nile from Busoga to the Albert Nyanza and bordering upon Uganda; indeed, at one time, a great part of Uganda was governed by the Bunyoro king.

The king of Bunyoro has always been expected to die while retaining his full powers, mental and physical. Should he feel unwell and have a presentiment that he is about to be seriously ill, he calls his chief wife, informs her, and asks for the poison cup. The drug for making this cup is kept ready to hand so that it is mixed with little delay. The king drinks it and is dead in a few moments. For a time the fact of his death is kept secret, only two or three chiefs being allowed to share the responsibility of preparing the body for burial and the country for the inevitable war which must follow. It is the custom for the heirs to fight among themselves for the throne. The war continues as long as there are princes to fight, and increases in violence as one prince after another falls and his forces attach themselves to one of the other factions, until the final battle is fought between the two surviving princes. Important chiefs do not fight, but remain guarding the body of the king. All other men join in the war, attaching themselves to their favorite prince. The surviving prince goes to the chiefs guarding the dead king and demands the body of his father and, after being proclaimed king, he takes the body to its burial place. This is a part of the country reserved for the tombs of the kings, and here the ceremonies of honoring and worshiping the dead begin. The string for binding the blades of the hoes to the handles used in digging the grave must be of a special kind. A man is chosen and sent by the king to mark out the size of the grave and, when he announces that the place is ready to be dug, he is arrested and clubbed to death, and the sinews from his back are cut out and used as string to fasten the iron hoe blades to their handles. The grave is a large pit with an inclined path cut into it, down which the body is carried. The bottom and sides are lined with cow skins, and on these bark cloth is laid forming a bed for the body to lie upon. The body is laid in a recumbent position and covered with bark cloth. A number of important people are marched into the grave and speared to death. These include two principal widows, the boy whose duty has been to drink any milk left by the king at his meals, the chief herdsman, chief cook, and the man who has charge of the king's well.

Numbers of widows go to the funeral and, unless they are guarded, they poison themselves and fall dead into the grave. The grave is filled with earth and a mound is raised over it. Near this mound a number of cows are killed from the king's private herd, the blood running over the grave, and the meat is cooked and eaten by the men who have been at work digging the grave and carrying out the funeral rites. The human beings, who are killed, and the cows are said to go to the king in the ghost world, where the wives and officers carry on their former duties about the king, while the cows form his herd of animals. Over the grave is built a large hut in which a number of priests with a medium live to keep in touch with the departed king. To this hut the new king sends for information as from a father, and thus obtains news concerning the state and any enemies about to invade the country. He sends offerings of cattle and, at times, of slaves when he wishes to obtain information especially concerning the state.

From the time that the death is announced the widows begin to wail and call to the ghost of the king to return, and this continues as in the description given above concerning the Baganda.

Among the common people the death of a person is made known at once and wailing begins; the body is washed and shaved clean of all hair on head and face, the nails are pared on hands and feet and both hair and nail parings are reserved for the grave. The legs are bent into the favorite position of squatting and the body is wrapped in a cowhide. The place of burial is the dung heap in the cow kraal. These heaps are made by sweeping the kraal each day and throwing the sweepings to one side until a heap often six feet high or more is made. This duty of sweeping the kraal is one of the few laborious duties that men belonging to the pastoral clans may perform without injury to the herds. In this heap the men dig a hole big enough to receive the body, and line it with cow skins for the body to rest upon. During the day the weapons and all milk vessels or water vessels used by the deceased are placed outside near the door of the hut in which the body lies. Before the funeral takes place both relatives and friends take leave of the dead, each person smearing a little butter on the forehead of the dead man, and wailing is carried on without cessation during the day. The relatives who carry the body to the grave there put it in a sitting position. From the time that the body leaves the house until the funeral rites are complete no sound of mourning is heard; but the lamentation begins after the burial and continues during the night. The widows have to be watched and guarded to prevent them from taking poison and dying at the grave. It is considered to be the correct thing for a widow to wish to join her husband in the ghost world and thus escape any hardship which may be in store for her when left without a husband to provide her with food. Before the grave is filled the relatives push a little earth into the grave with their elbows — this is done by both men and women — and the men then complete the task of filling

in the grave. In the evening the cows are not milked nor are the calves allowed their evening meal. As the cows return from the pasture, they are driven into the kraal lowing for their calves, the latter being tied up in the huts round the kraal. A young bull is selected from the herd and a cord is tied round its scrotum, which causes the animal to low with discomfort and pain. No person belonging to the kraal sleeps that night, watch fires are kept burning brightly at the entrance gate, and wailing continues which, with the lowing of the cattle, creates a weird and pathetic sound. As the first beams of the rising sun shoot across the sky, the eldest brother of the deceased enters the kraal with a spear and thrusts it into the heart of the bull, which was selected the previous night and has been lowing in pain, and kills it. The meat is cut up and divided among the mourners who roast it on the watch fires and eat it. After this meal the cows are milked, the calves turned loose to enjoy a meal with their dams and comparative quiet reigns for a time. The brother of the deceased cuts down the reed walls of the hut in which the body rested before burial, removes the bedstead and breaks it up, and the weapons and all milk vessels and water vessels belonging to the dead man are broken and rendered useless. The idea appears to be something more than that of preventing them from being used by other people: it is rather to free their spiritual essence that it may escape to their late owner in the spirit world, just as the offering of human beings and of animals at the grave sets them free to go to the spirit world to their late master.

The mourners take up their residence near the grave outside the kraal in the open air. They have fires to sleep by, but they do not enter any house but remain isolated from their fellow-members of the clan. They drink no milk during this time of mourning, but have oxen supplied regularly to them for food and plantain wine to drink. The mourning lasts from six months to a year according to the rank of the dead person. The heir decides the time for the mourning to last. He too states when the mourners are to begin their purificatory ceremonies. For these, they shave their heads and bodies, pare their nails and place the hair and nail parings on the grave, while the pots, spears, and sleeping mat of the deceased are arranged by the grave-side, round which a fence is built. The relatives build a hut nearby, and the mourners go into it and live there four days. They have a bath each day, and on the fourth day they shave their bodies again and cut their nails. New clothing is now supplied to them and milk is given them to drink. After this meal they are escorted to another house where they meet relatives and friends. Here they remain three days longer, but they are free to meet friends and to drink milk. The meat and beer diet ceases when they enter the hut. On the fourth day they visit the king, taking a milch cow and calf, and a few pots of milk. This reception by the king ends the mourning ceremony, and the mourners are now at liberty to return to their ordinary life. After this the grave is left to fall into decay and the cattle are usually removed to a new kraal. The

ghost, however, is remembered and has a small shrine built near the kraal where libations are poured out. Offerings are only made to these ghosts at the suggestion of a medicine man who attributes some sickness or misfortune to the influence of a dissatisfied ghost.

This cult of the dead is very generally observed even where there are national gods of great importance. The clan god, that is the deified ancestor, is the first to be consulted when any sickness or trouble occurs, and only at his bidding will a member go to another god for help. The worship of national and nature gods seems to be developed from this worship of the dead; in each detail of the worship of hero and nature gods we find anthropomorphism. The native mind is incapable of understanding anything that is abstract, or that differs from daily occupations, from the likes and dislikes of this life. Hence for his ghost worship he provides drink and clothing, because he believes that the extremes of heat and cold affect the ghost, while the offerings of slaves and cattle become the ghost's property and are thought to contribute to his personal comfort.

When human beings are sacrificed, their dead bodies are not buried. They belong to the ghost, and no member of the clan claims a body thus offered. The person thus sacrificed is taken out of the clan and becomes the property of ghost or god. Hence the body is not buried but is left exposed to the effects of the weather.

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## THE PALEOLITHS OF THE EASTERN DESERT

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In 1914, G. W. Murray of the Egyptian Survey Department found in the Eastern Desert of Egypt, in a region now entirely uninhabitable, a number of flint implements of primitive types. His first collection he presented to London University; a subsequent one he gave to the Peabody Museum of Harvard University. The specimens comprised in this latter group were all found between the Nile and the Red sea in the vicinity, roughly speaking, of the Kenah-Koseyr road. The sites represented are Rabah, Wasif, Hammama, and Mahamid (see map). The implements in this region occur regularly on the tops of the hills and not in the valleys, except in those instances where they have through natural agencies found their way into the latter.

In discussing Mr. Murray's collection<sup>1</sup>, I have deemed it advisable, for purposes of comparison, to describe also certain implements found at Luxor by H. W. Haynes in 1877.<sup>2</sup> (Figs. 59 to 120 represent these specimens.) The general discussion which follows will, however, apply only to the collections from the Eastern Desert, unless explicit reference is made to the Haynes collection.

The flint of the specimens from the Eastern Desert is somewhat varied in character, but there seems to be no relationship between the kind of flint and the site from which the implements came, nor between the kind of flint and the type of implement.

The patination shows great variation, but here again there is no correlation between depth of patina and type of implement or site of origin. One variety of patination, however, deserves special notice. It develops mainly in little depressions, in scratches, under the *arêtes*, and between the wave-like ridges on the side of the cones of percussion away from the point of impact of the blow. From its resemblance in appearance to the

<sup>1</sup> In the Peabody Museum collection are 57 specimens, divided between the sites as follows; from Rabah 34, from Wasif 14, from Hammama 5, and from Mahamid 4. Of these, five (figs. 37, 39, 51, 52, and 56) may be purely natural forms. Two of these are from Wasif, two from Hammama, and one from Mahamid. One specimen from Hammama (fig. 49) may be a modern gun flint.

<sup>2</sup> H. W. Haynes, 'Discovery of palaeolithic flint implements in upper Egypt' (Mem. Amer. Acad. of Arts and Sci., N. S. vol. 10, pt. 2, Cambridge, 1882, p. 357-361). Haynes's own copy of his work, with numerous valuable annotations, is in the library of the Peabody Museum. His collection (here described) was bequeathed to the same institution.

dendrites formed by certain mineral deposits, I call this type of patina *dendritic*<sup>3</sup> (figs. 2, 11, and 28).

Whatever the patinating influences are, they seem to work most actively on such surfaces as are exposed to the air. When an implement lies in the sand with the convex face up, if the wind blows away the sand at all, it probably uncovers the whole specimen, leaving only the concave face underneath unexposed. When, however, the concave face lies uppermost, the sand is likely to be blown away from its central portion only, the edges and the whole convex face being left unexposed. Thus there is a tendency of the convex face to be patinated evenly, while the edges of the concave face may be less patinated than the center. This rapprochement between the less patinated convex face and the peripheral surface of the concave face is shown in figs. 29 and 30.

On certain of the specimens are small, dark colored dots, looking much like iron rust. These seem to be an incrustation composed of small quantities of oxides of manganese and iron, cemented by calcium carbonate. Fig. 15 shows a specimen with this mottled incrustation, and end D of fig. 7 has it developed to a remarkable extent. White calcareous incrustations also occur, either conjointly with the mottled type or independently.

The *arêtes* of many of the specimens are more or less rounded by sand blasting.

Striations or scratches appear on many of the specimens. Some of these are similar in general appearance to some described by Sturge.<sup>4</sup> In the Egyptian specimens, these scratches usually occur on the much patinated flints—especially those with dendritic patina (see fig. 121). This is to be expected as flint so patinated is fairly soft, and can easily be scratched by a fresher piece of flint. In some cases, the scratches show in the grooves little “pin” holes (see fig. 122), while in other cases, they seem to be the result of the breaking off of small scales along a line of incipient fracture (see fig. 123).

Nineteen of the specimens, or one third of the whole number, preserve portions of the original nodular surface. Sometimes this serves as a hand hold, as in fig. 47, while at other times it has been retained merely because it was not in the way. Such is the case in fig. 32. In about half the examples, the nodular surface has been retained because of its usefulness, while in the remainder it has been left because there was no need of removing it.

Portions of old fracture planes are also sometimes preserved and are seen to carry

<sup>3</sup> Not to be confused with the more technical French *dendrites*. J. Déchelette, *Manuel d'archéologie préhistorique*, Paris, 1908, vol. 1, p. 21, note 4, “les dendrites, petites arborescences dues à des cristaux de manganèse”. The patina I refer to is usually brown rather than the black of the manganese.

<sup>4</sup> W. A. Sturge, ‘The chronology of the stone age’ (Proc. Prehist. Soc. of East Anglia, vol. 1, pt. 1, London, 1911, p. 43–105). Sturge attributed the striae to the action of glacial ice—a cause which is, of course, out of the question for the Egyptian specimens. Another theory which is equally untenable for the Egyptian forms is that of plow marks; cf. J. Reid Moir, ‘The striation of flint surfaces’ (Man, vol. 14, no. 90, London, 1914, p. 177–181).

a deeper patination than the surfaces of human origin. They also tend to be flatter, as the forces which produced them were of larger scale than those employed in intentional flint working. There are six cases of this retention, and in all the surface was simply not in the way (fig. 27 is an example). Incipient fractures or small cracks which did not form fractures are shown across end D in fig. 26. Sometimes flakes removed by man have followed the lines of some of the more irregular of these incipient fractures, thus producing a very uneven surface (fig. 25).

The process of exfoliation has often occurred. Under the hot sun, the thin layer of flint near the surface of a specimen becomes rapidly heated, and expands more than the interior unexposed portion. During the cool desert nights, this same surface is more chilled than the interior, and consequently contracts more. The molecular strain of unequal expansion and contraction produces a zone of weakness. After a time, a thin scale separates from the specimen. This leaves a little depression, which may be entirely concave (the depression left by a blow being open at one end). Such depressions meet each other in ridges which are little influenced by the imperfections in the flint (flakes removed by percussion almost always being controlled by these imperfections). They do not possess spreading wave-like crests as on a cone of percussion, nor do they have a definite arrangement as is the case on artificially chipped implements. Figs. 39 and 124 show a specimen where exfoliation has merely removed very small scales, making the old surface appear *moth-eaten*. The small round pits shown in fig. 16 are typical of the results of this process. Fig. 37 shows a surface probably almost entirely due to this cause.<sup>5</sup>

Accidental flaking which occurred after the implement was lost or discarded may sometimes be detected. Sometimes such flaking took place at a very early period, and the new faces display a patination much like that of the original surface. At other times the accident was late, and can easily be distinguished from the original chipping. The possibility of such accidents must be considered in specimens which seem to show two distinct periods of chipping.

As is to be expected, most of the specimens owe their form mainly to intentional chipping, and most of the facets are so made. Many of these facets are fairly large — a single cleavage plane sometimes forming the whole of one face of an implement. For example, figs. 17, 25, and 32 show specimens about 14 cm. long and over 5 cm. wide, which have an entire face of one such cleavage plane. On the whole, the implements are grossly chipped — made largely by the removal of fairly big flakes. Intentional retouch-

<sup>5</sup> Cf. J. de Morgan, *Recherches sur les origines de l'Égypte; l'Âge de la pierre et les métaux*, Paris, 1896, p. 58, fig. 16.

ing of the edges by the removal of very small flakes is rare, and it is probable that even this is the result of percussion rather than compression.

Where flakes have been removed intentionally, the process has been one of two. Parallel flakes may have been made by striking a series of blows on the ends of the specimen (figs. 1-10). On the other hand, the blows may have been struck all around the periphery towards a common center, thus forming radial chipping (figs. 54, 57, 58). Longitudinal chipping is over three times more common than the radial. Thirty specimens have both faces longitudinally chipped, while only five have both radially chipped. Eleven have one face flaked radially and the other longitudinally. The remaining specimens have had their forms determined chiefly by natural agencies. Such flaking as has taken place on them is largely longitudinal.

Nearly all the specimens show on their edges little facets made by the accidental removal of flakes in the use of the implement. These are fairly close together, but not regularly distributed or uniform in size. They show minute cones of percussion or, more often, reversed cones. Sometimes they are confined to one face, as is to be expected in scraping tools; while at other times they occur on both faces as would be the case if the implement were employed in cutting or hammering.

We have seen that differences of patination arise from variation in the flint, from different degrees of exposure, from the retention of old nodular surfaces and fracture planes, from exfoliation, and from later accidental removal of flakes. Three specimens in the collection, however, have differences which these factors cannot account for. Two of these implements (figs. 14 and 28) are from Rabah, and one (fig. 36) is from Wasif. On these, certain facets show one degree of patination, incrustation, and sand blasting, while other facets which meet them, present a very different degree of all of these. The implement of one age, lost or thrown away, seems to have been picked up and refashioned by an individual of a later age. Thus there is seen on one implement evidence of two stages of flaking.

A word seems necessary concerning the various methods shown in the collection of obtaining better hand or finger grasps. Portions of the original nodular surface are sometimes preserved (figs. 26 and 47). Portions of old fracture planes are retained in the same way (fig. 13). In chipping, one part of the implement may have been left thicker than the remainder (fig. 19). At other times, an extra flake has been removed at the handle end, making it thinner and leaving a little stop-ridge (fig. 31, 42, 44). Small facets are left at right angles to the two faces (figs. 1-14). Notches are sometimes made in the edges (figs. 4, 6, and 15).



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<sup>5</sup> Cf. J. de Morgan, *Recherches sur les origines de l'Égypte; l'âge de la pierre et les métaux*, Paris, 1896, p. 58, fig. 16.

ing of the edges by the removal of very small flakes is rare, and it is probable that even this is the result of percussion rather than compression.

Where flakes have been removed intentionally, the process has been one of two. Parallel flakes may have been made by striking a series of blows on the ends of the specimen (figs. 1-10). On the other hand, the blows may have been struck all around the periphery towards a common center, thus forming radial chipping (figs. 54, 57, 58). Longitudinal chipping is over three times more common than the radial. Thirty specimens have both faces longitudinally chipped, while only five have both radially chipped. Eleven have one face flaked radially and the other longitudinally. The remaining specimens have had their forms determined chiefly by natural agencies. Such flaking as has taken place on them is largely longitudinal.

Nearly all the specimens show on their edges little facets made by the accidental removal of flakes in the use of the implement. These are fairly close together, but not regularly distributed or uniform in size. They show minute cones of percussion or, more often, reversed cones. Sometimes they are confined to one face, as is to be expected in scraping tools; while at other times they occur on both faces as would be the case if the implement were employed in cutting or hammering.

We have seen that differences of patination arise from variation in the flint, from different degrees of exposure, from the retention of old nodular surfaces and fracture planes, from exfoliation, and from later accidental removal of flakes. Three specimens in the collection, however, have differences which these factors cannot account for. Two of these implements (figs. 14 and 28) are from Rabah, and one (fig. 36) is from Wasif. On these, certain facets show one degree of patination, incrustation, and sand blasting, while other facets which meet them, present a very different degree of all of these. The implement of one age, lost or thrown away, seems to have been picked up and refashioned by an individual of a later age. Thus there is seen on one implement evidence of two stages of flaking.

A word seems necessary concerning the various methods shown in the collection of obtaining better hand or finger grasps. Portions of the original nodular surface are sometimes preserved (figs. 26 and 47). Portions of old fracture planes are retained in the same way (fig. 13). In chipping, one part of the implement may have been left thicker than the remainder (fig. 19). At other times, an extra flake has been removed at the handle end, making it thinner and leaving a little stop-ridge (fig. 31, 42, 44). Small facets are left at right angles to the two faces (figs. 1-14). Notches are sometimes made in the edges (figs. 4, 6, and 15).

Fig. 1. Cat. no.  $\frac{B}{736}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light colored — slightly translucent. Patina — slight.  $7 \times 2.5 \times 0.5$  cm. Concave face — single cleavage plane, with cone of percussion at end B. Convex face — three longitudinal facets.

Secondary chipping, probably due to the use of the implement as a cutting tool rather than to design, occurs on both edges, toward both faces. End B has been flaked so as to form a small facet approximately at right angles to the two faces. In this facet, a small shallow notch has been chipped, but otherwise it is unmodified by retouching. The opposite end is slightly beveled from the concave face. In it is a small circular notch A. The large notch shown in the upper left hand corner of the figure is due to a late accident and is therefore without significance.

Fig. 2. Cat. no.  $\frac{B}{729}$ , P. M. Rabah. (Figure shows convex face.)

Flint — dark — somewhat translucent. Patina — concave face, yellow in center, dendritic on edges — convex face, dendritic.  $7 \times 2 \times 1$  cm. Concave face — portion of single cleavage plane with cone of percussion probably at end A. Convex face — three longitudinal facets. Striations — convex face, several up to 2 mm. long, due apparently to weathering — concave face, several up to 10 mm. long.

End B has a flake removed at right angles to the two surfaces. Along the contact of this with the concave face is slight secondary chipping due to use as a front scraper. The lower edge in the figure is also flaked off at right angles to the two faces, and shows secondary chipping due to use as a side scraper. The other edge is rather sinuous, and has had flakes removed from both faces. End A is beveled from the concave face, and has in it a small circular notch similar to the one found in the corresponding position in fig. 1.

Fig. 3. Cat. no.  $\frac{B}{733}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light colored — translucent. Patina — dull yellow — convex face, mottled.  $10 \times 3 \times 1$  cm. Concave face — single cleavage plane with cone of percussion at end B. Convex face — several longitudinal facets. Striations — three about 2 mm. long on concave face.

Secondary chipping, due probably to the use of the implement as a cutting tool, occurs on both edges and on end A. This is slight and confined to the convex face on edge D, while on edge C it is considerable and occurs on both faces. On end A, it is slight, but occurs on both faces. This end meets the two edges obliquely. End B has had a flake removed at right angles to the two faces. This feature, which was also found on one end of each of the specimens shown in figs. 1 and 2, and also occurs in many other specimens in the collection, seems to be intended. It may have served to obtain a

smoother hand or finger grasp. At end B on the concave face, is a very clear example of twin cones of percussion formed by a single blow.<sup>6</sup>

Fig. 4. Cat. no.  $\frac{B}{730}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — translucent. Patina — dark brown — mottled.  $10 \times 3 \times 1.5$  cm. Concave face — single cleavage plane with cone of percussion probably at end C. Convex face — four longitudinal facets. Cf. J. Lubbock, 'Notes on the discovery of stone implements in Egypt' (Jour. Anthr. Inst., vol. 4, London, 1875, p. 215-222), pl. 15, fig. 3.

Imperfections in the flint have so controlled the chipping that end C is a surface at right angles to the two faces, similar to the intentionally squared ends of the three previous specimens. From the convex face at the other end many small flakes have been removed to form a beveled pushing edge. At B is a very small worked notch. Edge D is modified by use mainly on the concave face. On the other edge, similar secondary chipping occurs, but mainly on the convex face. At A, a large but shallow notch has been worked in this edge, probably as a finger grasp.

Fig. 5. Cat. no.  $\frac{B}{732}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — opaque. Patina — dark brown — mottled on convex face. Calcareous incrustation in spots on concave face.  $10 \times 4 \times 1$  cm. Concave face — single cleavage plane. Convex face — several longitudinal facets, with portion of cortex at A.

Both edges are worked, mainly on the convex face, through use. End B is carefully retouched, and meets the edges obliquely, as does end A in fig. 3. End C is also flaked off at right angles to the two faces, as in end B of fig. 3. These two may therefore be considered as the same type of implement. End C also shows retouching on the convex face as a front scraper (*grattoir*).

Fig. 6. Cat. no.  $\frac{B}{714}$ , P. M. Rabah. (Figure shows convex face.)

Flint — dark — translucent. Patina — concave face, yellow — convex face, slight, lustrous.  $10 \times 3 \times 1.5$  cm. Concave face — single cleavage plane with cone of percussion at end A. Convex face — longitudinally flaked — with portion of cortex at B. Striations — many up to 2 cm. long on concave face.

One end, A, has had a flake removed at right angles to the two faces, just as in all the previous specimens. B is another such straight edge. On the convex face, at A, there apparently was an unsuccessful attempt to make a stop-ridge by the removal of a small flake. Between C and E such a stop-ridge actually appears. At C and D are shallow notches, apparently for finger grasps. At E, there was a small projecting point since

<sup>6</sup> For a discussion on this interesting peculiarity, see S. H. Warren, 'Experimental investigation of flint fracture and its application to problems of human implements' (Jour. Anthr. Inst. vol. 44, London, 1914, p. 412-450) p. 421.

broken off. It is difficult to see why in this one implement should be found all the principal methods observed on the whole collection for making hand holds, especially when the tool does not show particularly violent usage. Edge C has been retouched, principally on the convex face, except along the straight portion B. The other edge has been retouched on the whole length of the convex face. The lower end in the figure shows secondary chipping on both faces. At G is a small circular notch, and at F is a suggestion of another.

Fig. 7. Cat. no.  $\frac{B}{720}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — translucent. Patina — concave face, yellow — convex face, brown. Mottled incrustation very thick on both faces at end D.  $10 \times 4 \times 1$  cm. Concave face — single cleavage plane with cone of percussion at end E. Convex face — longitudinally flaked.

End E has a flake removed at right angles to the two faces. Just above A there is a stop-ridge. At A, B, and C are notches so small and so rough that it is probable they are not finger grasps, as most of the other notches seem to have been. Both edges are retouched mainly on the convex face. End D is beveled from the concave face.

Fig. 8. Cat. no.  $\frac{B}{727}$ , P. M. Rabah. (Figure shows convex face.)

Flint — dark — opaque. Patina — concave face, yellow, with some mottled spots — convex face, light.  $8.5 \times 3 \times 1.5$ . Concave face — single cleavage surface with cone of percussion at end B. Convex face — three longitudinal facets.

The edges are but slightly modified through use. End B has had flakes removed at right angles to the two faces. End A has had two diagonal flakes removed in the same manner. A form is thus produced similar to the graving tools (*burins*) of paleolithic Europe, but of a size somewhat larger.

Fig. 9. Cat. no.  $\frac{B}{718}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — translucent. Patina — slight.  $10 \times 3.5 \times 1.5$  cm. Concave face — single cleavage plane with cone of percussion at end C. Convex face — three longitudinal facets — a strip of the cortex remaining at A.

The flint was imperfect and this has caused the unusual form shown at end B. The upper edge in the figure has no retouching, and the lower edge is but slightly retouched on the concave face only. The ends are both flaked off at right angles to the two faces, but neither show other secondary chipping.

Fig. 10. Cat. no.  $\frac{B}{717}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — opaque. Patina — yellow — mottled.  $10 \times 3.5 \times 2$  cm. Concave face — single cleavage plane with cone of percussion at end E. Convex face — several longitudinal facets with an exfoliation facet A.

Both ends are flaked off at right angles to the two faces. End E has no retouching, and end D but a small amount on the convex face. The edges are slightly retouched by use on both faces. At B and C, they are slightly notched or roughened, perhaps for hand holds.

Fig. 11. Cat. no.  $\frac{B}{755}$ , P. M. Rabah. (Figure shows convex face. Cf. enlarged portion of same face, fig. 121.)

Flint — light — translucent. Patina — concave face, bright yellow except on edges where it is slight — convex face, dendritic.  $5 \times 4 \times 1.5$  cm. Concave face — single cleavage plane. Convex face — several radial facets — places shaded in tracing are portions of cortex. Striations — concave face, up to 5 mm. long, some with "pin" holes — on convex face, short, associated with dendritic patina and scaling holes. On this specimen, portions bearing dendritic patination scratch easily.

End B is beveled. In the region of A, a facet is at right angles to the two faces. The edge shows no evidence of fine secondary chipping except by use. It is rather sinuous except in the region of A, where it is straight. This portion is thicker than the rest of the specimen, and probably was the handle in most uses of the tool. It was, however, used as a scraping edge of the snub-nosed type. When it was so used the stop-ridge at C probably served as a finger grasp.

Fig. 12. Cat. no.  $\frac{B}{722}$ , P. M. Rabah. (Figure shows concave face. Cf. enlarged portion of convex face, fig. 123.)

Flint — light — opaque. Patina — dendritic.  $6 \times 4 \times 1$  cm. Concave face — mainly an old fracture plane A, and a series of radial chippings along the edge. Convex face — several longitudinal facets with a few radial ones on one edge. Striations — convex face, up to 10 mm. long, pin hole variety, associated with dendritic patina.

The edge is sinuous and beveled except in the region B, where a flake has been removed at right angles to the two faces — a device for holding common in the other specimens of the collection.

Fig. 13. Cat. no.  $\frac{B}{734}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — translucent. Patina — slight.  $6 \times 5 \times 1.5$  cm. Concave face — mainly a single cleavage plane with reversed cone of percussion at B — a few flakes have been removed to give a beveled edge in the region of C. Convex face — mainly a portion of an old fracture plane A — and a series of radial cleavage planes around the edge.

The edge is sinuous with a long bevel, except at B, where there is a facet nearly at right angles to the two faces. This place, like so many other similar places on other specimens, seems to have served sometimes as a hand hold and sometimes as a scraping edge. The specimen bears no fine secondary chipping except that due to use.

Fig. 14. Cat. no.  $\frac{B}{737}$ , P. M. Rabah. (Figure shows convex face. Cf. enlarged portion of same face, fig. 124.)

Flint — light — transparent. Patina — strongly dendritic, especially on convex face — this patina associated with considerable scaling due to exfoliation.  $5.5 \times 4.5 \times 1.5$  cm. Concave face — irregular radial facets, with portion of cortex in the region of A. Convex face — longitudinally flaked, with some radial flaking on edge.

The edge about B (dotted in the tracing) consists of flakings which show little patina and no exfoliation pits. Their *arêtes* are not rounded by sand blasting as are those on the remainder of the face, but are sharp and fresh. They cut across the patina as if it had been entirely formed before they were made. We seem to have here the tool of one age, rejected or lost, picked up much later and refashioned. The edge of the specimen is sinuous and beveled, except on the portion near the top in the illustration. Here there is a facet almost at right angles to the two surfaces, which, with the old nodular surface remaining near A, may have served as a hand hold.

Fig. 15. Cat. no.  $\frac{B}{726}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — transparent. Patina — yellowish — dull — mottled in spots.  $12 \times 5 \times 1$  cm. Concave face — single cleavage plane with the cone of percussion at end A. Convex face — several radial facets.

The entire edge bears secondary chipping, sometimes on one face and sometimes on the other, due apparently to use rather than to design. At B is a small notch beveled from the convex face. At A, a notch has been formed by the removal of a flake at right angles to the two faces. At C, a notch is beveled from the concave face. At D, there is a stop-ridge which with notch C affords a good hand hold. Notches A and B do not seem to be so placed that they could have served for such a purpose.

Fig. 16. Cat. no.  $\frac{B}{711}$ , P. M. Rabah. (Figure shows concave face.)

Flint — light — translucent. Patina — concave face, yellow brown — convex face, dark brown, strongly mottled. Incrustation — calcareous in spots.  $8 \times 6.5 \times 2$  cm.

It has a discoidal form apparently due almost entirely to natural agencies. The convex face is a single large cone of percussion with the point of the impact of the cleaving force at B. The *ripple marks* on this seem to indicate that it is an old fracture plane rather than one due to human workmanship. The concave face has many small pits, unquestionably due to exfoliation. The main facets appear on close examination to be due to the same cause. Thus the discoidal shape seems to be the result of natural forces. The artificial chipping along the edges bears out this conclusion, as it is much less patinated than either face, and lacks entirely the mottled incrustation. This artificial chipping is confined to a retouching of the edges by the removal of small flakes. This occurs

around the entire edge. In the region of B, it is nearly at right angles to the two faces. At A is a shallow notch. At C, the edge is thinnest and sharpest.

Fig. 17. Cat. no.  $\frac{B}{706}$ , P. M. Rabah. (Figure shows convex face.)

Flint — dark — opaque. Patina — concave face, dark brown, mottled — convex face, dendritic. Incrustations — calcareous on concave face.  $14 \times 5.5 \times 2.5$  cm. Concave face — portion of a single cleavage surface with cone of percussion probably at end F. Convex face — several longitudinal facets with a portion of the original cortex at A.

At A and F are facets nearly at right angles to the two faces. The edges show secondary chipping, mainly due to use in scraping, on the convex face. At B, D, and E, are shallow notches suitable for finger holds, and at C, two notches too small for such.

Fig. 18. Cat. no.  $\frac{B}{712}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — nearly opaque. Patina — concave face, yellow in center, gray on edges — convex face, gray, mottled.  $10 \times 5 \times 2.5$  cm. Concave face — single cleavage surface with cone of percussion at end B. Convex face — three longitudinal facets.

At D is a natural fracture plane. This and a facet at B are at right angles to the two surfaces. Shallow notches occur at A and C. Edge A is carefully retouched on the convex face, and the other edge has a little secondary chipping due to use on the same face.

Fig. 19. Cat. no.  $\frac{B}{721}$ , P. M. Rabah. (Figure shows concave face.)

Flint — light — translucent. Patina — concave face, yellow in spots, slight over most of surface — convex face, yellow, finely mottled, giving effect of pen drawing.  $9 \times 9 \times 2.5$  cm. Concave face — radially flaked. Convex face — formed by very regular radial chipping.

The facet at A, almost at right angles to the two faces, and the thick part of the implement at C serve as hand holds. The edge is slightly wavy, and is worked to a rough point at B. The whole is regularly discoidal in shape.

Fig. 20. Cat. no.  $\frac{B}{725}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — translucent. Patina — concave face, dark brown — convex face, bright yellow brown, associated with small exfoliation pits.  $7 \times 4 \times 1.5$  cm. Concave face — a single cleavage plane which may be due to exfoliation — a few radial facets on the edges. Convex face — formed by the removal of roughly radial flakes.

The implement is roughly ovoid, with one end (D) pointed. At B is a small notch, and at A, another; at C is a small projection. The edge is sinuous, and shows no fine secondary chipping, except such as is due to use.



Fig. 21. Cat. no.  $\frac{B}{735}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — opaque. Patina — concave face, yellow brown — convex face, dendritic.  $7 \times 5 \times 2$  cm. Concave face — single cleavage surface with cone of percussion at A. Convex face — several radial facets, so arranged that the greatest thickness of the implement comes at E.

Rough retouching occurs around the entire edge on the convex face. The implement is ovoid, with end D slightly pointed. Shallow notches worked on the concave face occur at B and C.

Fig. 22. Cat. no.  $\frac{B}{719}$ , P. M. Rabah. (Figure shows an edge.)

Flint — opaque. Patina — brown.  $8 \times 5.5 \times 1.5$  cm. Flaking on both faces longitudinal, with a portion of the cortex remaining at one end.

End A has a surface nearly at right angles to the two faces, and two small notches, probably for finger holds. The edge is but a little more sinuous than that of many other specimens in the collection.

Fig. 23. Cat. no.  $\frac{B}{716}$ , P. M. Rabah. (Figure shows concave face.)

Flint — light — very translucent. Patina — concave face, yellow brown, thickly mottled — convex face, light yellow.  $9 \times 6 \times 1$  cm. Concave face — single cleavage plane with cone of percussion at end A. Convex face — several longitudinal facets.

End A has had a flake removed at right angles to the two faces. The remainder of the edge is carefully retouched, mainly on the concave face. At B is a well-worked shallow notch, and at C, two small notches having a point between them. End D is straight, and slightly oblique. The whole specimen is roughly rectangular.

Fig. 24. Cat. no.  $\frac{B}{715}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — opaque. Patina — concave face, yellow brown — convex face, dendritic.  $9 \times 5 \times 1.5$  cm. Concave face — portion of a single cleavage plane. Convex face — cleavage has followed old fracture lines (incipient fractures).

The edges, except at A, are carefully retouched on the convex face. At E is a flat facet nearly at right angles to the two faces. At B is a carefully worked notch, and at C a projecting point. The end D is rounded. The notch at A seems to be due to a late accident, and is therefore without significance. As a front scraper, the implement would apparently be handled much more easily with the left hand than with the right.

Fig. 25. Cat. no.  $\frac{B}{706}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — translucent. Patina — concave face, yellow, somewhat mottled in spots — convex face, dark dirty brown, mottled. Incrustation — calcareous in spots, on both faces.  $14 \times 7 \times 2$  cm. Concave face — single cleavage plane with cone of percussion at A. Convex face — either old fracture surface, or else facets which have followed the lines of incipient fracture.

The general form of the implement is probably due to natural agencies. At A, a flake has been removed at right angles to the two faces. The remainder of the edge is roughly chipped, mainly by use. The end D is slightly beveled from the convex face. There is a shallow notch at C. The widest part of the implement is from B to C. On one side of this is the tapering handle end A, and on the other the tapering point end D.

Fig. 26. Cat. no.  $\frac{B}{710}$ , P. M. Rabah. (Figure shows convex face.)

Flint — dark — translucent. Patina — concave face, brown, mottled — convex face, dendritic. Incrustation — calcareous on concave face.  $9 \times 7 \times 3$  cm. Concave face — several longitudinal facets. Convex face — radially flaked, leaving a portion of the old cortex at A.

Both the rounded end B and the pointed end D show retouching, probably by battering. This is true to a less extent of the remainder of the edge. At C there is a flat facet, and at E, a slight depression, which may have served as hand holds. Near end D are many small incipient fractures.

Fig. 27. Cat. no.  $\frac{B}{728}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — transparent. Patina — concave face, yellow brown in center, slight on edges — convex face, slight, dendritic.  $10 \times 6 \times 3$  cm. Flaking — radial on both faces — portion of old fracture plane retained at A, on convex face.

End B has a surface worked at right angles to the two faces, presumably as a hand hold. Along one edge of this is secondary chipping, due apparently to use as a scraper. At D and C, there are facets at right angles to the two faces. End E is worked to a blunt point. The whole edge is sinuous, and shows retouching by use.

Fig. 28. Cat. no.  $\frac{B}{713}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — translucent. Patina — concave face, yellow brown in center, slight on edges — convex face, strongly dendritic.  $9 \times 4 \times 1$  cm. Concave face — single cleavage plane with cone of percussion at end B. Convex face — several longitudinal facets, and a portion of the original cortex at A. Striations — small, associated with dendritic patina, on convex face.

Near F, several flakes have been removed leaving facets which cut across both the yellow brown and the dendritic patina in such a way that they must belong to a later stage of chipping. Here again, as in fig. 14, we have the tool of one age refashioned at a later time. The form of the original implement, however, was probably not very different from that of the present one. At C, D, E, and G are small shallow notches.

Fig. 29. Cat. no.  $\frac{B}{724}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — very translucent. Patina — concave face, slight, somewhat mottled — convex face, yellow in center, slight on edges.  $6.5 \times 4 \times 1.5$  cm. Concave face — single cleavage plane with cone of percussion at end A. Convex face — three longitudinal facets.

It is a thin rectangular flake with secondary chipping on both ends and edges, mainly due to use. At the two long corners have been worked in the edges. The ends are not sharp but have rounded at right angles to the two faces.

Fig. 31. Case no. 2, P. M. Batak. Figure shows concave face.

Flint - light - translucent. Patina - concave face, yellow brown in center, slight on edges - convex face, slight, dendritic.  $7 \times 4 \times 1$  cm. Concave face - single cleavage plane. Convex face - facing seems to have followed line of secondary cleavage.

At A a small portion of the original irregular surface remains. At B and C are facets approximately at right angles to the two faces.

Fig. 32. Case no. 3, P. M. Batak. Figure shows convex face.

Flint - light - opaque. Patina - yellow brown in center, brown in both faces. Dendritic - some dendritic marks on concave face.  $7 \times 4 \times 1$  cm. Concave face - portion of a single cleavage plane. Convex face - several radial facets - a few small flakes having been removed by use.

At A, B, and C facets have been worked at approximately right angles to the two faces. All of these show wear such as ridges from use as striking edges. At D is a shallow notch, carefully worked. At the side of D, C, is a small projecting point, and at E a similar point has been broken off by a late accident. At F the edge is slightly beveled from the convex face, and at G from the concave face. At I the bevel is again from the convex face. This feature A is a sub-edge. The whole implement is roughly oval, and apparently has been used mainly for scraping.

Fig. 33. Case no. 4, P. M. Batak. Figure shows convex face.

Flint - light - translucent. Patina - concave face, yellow brown in center, slight on edges - convex face, slight, dendritic.  $14 \times 4 \times 2$  cm. Concave face - single cleavage plane with some of preserved at end B. Convex face - three longitudinal facets with a portion of the corner at A.

End B has had a flake removed at right angles to the two faces. End E is rounded on the convex face as a wedge. The edges are worked on both faces. At D is a shallow notch, and at C are two other small ones. At G, the edge has been clipped back abruptly, and a projection left at F. This device seems to be intended as a hand grasp. In this specimen the portion of the original cortex which remains was left not as a hand hold, but because it was not in the way.

Fig. 34. Case no. 5, P. M. Batak. Figure shows convex face.

Flint - light - translucent. Patina - concave face, red brown - convex face, dendritic. Inclusion - dendritic in upper on concave face.  $7 \times 6 \times 1.5$  cm. Concave face - single cleavage surface with some of preserved, primarily at end A - a few small flakes having been removed from it by abrasion. Convex face - several longitudinal facets.

The general form of the whole implement is ovoid. At A, two facets have been made at right angles to the two faces, and at C is another facet of the same sort. At B is a shallow groove. Most of the secondary chipping due to use occurs on the edge D, although the whole edge shows wear.

Fig. 34. Cat. no.  $\frac{B}{723}$ , P. M. Rabah. (Figure shows convex face.)

Flint — white — opaque. Patina — slight.  $9 \times 5 \times 1$  cm. Concave face — single cleavage plane with cone of percussion at end A. Convex face — several radial facets.

End A has a facet at right angles to the two faces. Its only other secondary chipping is a very small amount due to use, probably in scraping. There are two small notches at B, and that whole edge is retouched on the convex face. End C is slightly beveled from the convex face, and in it is one small notch. At E, there is a comparatively deep notch, and at D a projecting point. Just below D is another small notch, apparently made in chipping out the projection. The remainder of this edge is retouched on the concave face.

Fig. 35. Cat. no.  $\frac{B}{741}$ , P. M. Wasif. (Figure shows convex face.)

Flint — light — translucent. Patina — concave face, yellow in center, dendritic on edges — convex face, dark brown, mottled. Incrustation — calcareous spots on convex face.  $8.5 \times 7.5 \times 3$  cm. Concave face — single cleavage plane with reversed cone of percussion at E — along edge from I to G, small radial flakes forming a beveled edge. Convex face — flaking has followed natural lines of incipient fracture, if it is not entirely due to nature — portions of original cortex remaining at A, B, and C.

From D to G, there is a series of facets at right angles to the two faces, apparently to serve as a hand hold. At H is a blunt point. The entire edge of the specimen is sinuous, and shows a like amount of use. The thickest portion of the implement is at A

Fig. 36. Cat. no.  $\frac{B}{738}$ , P. M. Wasif. (Figure shows convex face.)

Flint — light — very translucent. Patina — concave face, light yellow, with waxy luster, more or less translucent — convex face, yellow in spots, thickly mottled, with facets at D (dotted in the tracing) scarcely patinated at all. Incrustation — calcareous in spots on convex face.  $8 \times 8 \times 2$  cm. Concave face — several longitudinal cleavage planes which run in the general direction of a line from B to E, *arêtes* sharp and fresh looking. Convex face — radially flaked, portion of cortex at A, *arêtes* rounded and smoothed over most of surface, but somewhat sharper between B and G, and sharp and fresh looking at D (dotted in the tracing).

Along edges B to G and E to C, flakes have been removed at right angles to the two faces. Between B and C, a facet of the concave face forms a bevel to the edge. The differences in sharpness of *arêtes*, patination, and incrustation on different portions of each face seem to indicate two distinct stages of chipping, the second stage forming the edge at D and the other face of the implement, while the remainder is the result of the first.

In the present form, the thickest part of the specimen is at F, and the edge from B to G is smooth, thus forming a hand hold. The remainder of the edge is sinuous and battered.

Fig. 37. Cat. no.  $\frac{B}{740}$ , P. M. Wasif.

Flint — dark — opaque. Patina — one face, dark brown — other face, red brown. Incrustation — calcareous in spots.  $11 \times 9 \times 3$  cm. Flaking — no sure traces of human workmanship.

With the possible exception of one small flake, one face is entirely due to nature. Most of it is an old fracture surface, though some small flakes have been removed by exfoliation. The other face is entirely the result of exfoliation. Such facets as are marked A in the tracing are certainly due to that cause, while in the case of facet B the evidence is almost as strong. Between F and C are facets at right angles to the two faces, but these also seem to have their origin in natural causes. There is slight evidence of use, mainly between D and E. I am inclined to think that this specimen is not an implement at all, but a purely natural form.

Fig. 38. Cat. no.  $\frac{B}{742}$ , P. M. Wasif. (Figure shows convex face.)

Flint — dark — opaque. Patina — brown. Incrustation — calcareous in spots.  $9 \times 6 \times 2$  cm. Concave face — single cleavage surface with cone of percussion probably at end B — at end E, several additional flakes having been removed to form a beveled edge. Convex face — several longitudinal facets.

Between A and C is a facet nearly at right angles to the two faces, which shows wear as if in scraping. Between A and G is a notch which seems to be a finger hold. Between F and D, the edge shows evidence of use as a scraper, while the remainder of the edge has secondary chipping due to use as a cutting tool. At E, there is a slight notch in the edge.

Fig. 39. Cat. no.  $\frac{B}{750}$ , P. M. Wasif.

Flint — dark — opaque. Patina — dark brown. Incrustation — calcareous.  $10 \times 8 \times 2.5$  cm. Flaking — presence of human workmanship doubtful.

One face consists entirely of old fracture surfaces and exfoliation pits. The other face which is shown in the illustration has had so many small scales removed by exfoliation, especially in the region A, that it is difficult to determine the type of chipping. Flakes appear to have been removed radially. At B has been worked a small notch. The remainder of the edge is sinuous, and shows some evidence of use. The specimen may be only a natural form utilized by man, or perhaps it is purely natural.

Fig. 40. Cat. no.  $\frac{B}{746}$ , P. M. Wasif. (Figure shows convex face.)

Flint — white — opaque. Patina — slight.  $10 \times 3.5 \times 1.5$  cm. Concave face — single cleavage plane with cone of percussion at C. Convex face — three longitudinal facets.

At A and at C are small facets at right angles to the two faces. Edge B is retouched on the convex face, while edge D shows secondary chipping due to use on both faces. The *arête* between the two facets meeting at A shows some secondary chipping due to use.

Fig. 41. Cat. no.  $\frac{B}{745}$ , P. M. Wasif. (Figure shows convex face.)

Flint — light — translucent. Patina — concave face, dirty brown, mottled — convex face, yellow brown.  $10 \times 5 \times 1$  cm. Concave face — probably an old fracture plane with an irregular cone of percussion at B. Convex face — longitudinally flaked.

At E, and between A and C, are facets at right angles to the two faces. Secondary chipping due to use occurs between A and F, and between D and C. This constitutes all the retouching which occurs on the specimen.

Fig. 42. Cat. no.  $\frac{B}{751}$ , P. M. Wasif. (Figure shows convex face.)

Flint — dark — translucent. Patina — brown, mottled. Incrustation — calcareous in spots.  $8 \times 3 \times 1$  cm. Concave face — mainly a single cleavage plane with cone of percussion at end A. Convex face — mainly longitudinal facets.

Between G and E, and between B and C, on the concave face, small flakes have been removed so as to make a slight bevel to the edge. End D has a somewhat steeper bevel. To the right of G on the convex face is a stop-ridge. End A appears to have been finished for a scraping edge, but there is no evidence that it was ever so used.

Fig. 43. Cat. no.  $\frac{B}{749}$ , P. M. Wasif. (Figure shows convex face.)

Flint — dark — translucent. Patina — concave face, grayish yellow, except at end D where it is slight — convex face, slight. Incrustation — calcareous on convex face.  $5.5 \times 4 \times 1$  cm. Concave face — single cleavage plane with cone of percussion at B. Convex face — several longitudinal facets — portion of cortex at A.

From E to C is a facet at right angles to the two faces. The two edges are retouched on the convex face. End D and edge F appear to have been used in scraping.

Fig. 44. Cat. no.  $\frac{B}{748}$ , P. M. Wasif. (Figure shows convex face.)

Flint — dark — translucent. Patina — concave face, brown, mottled — convex face, slight. Incrustation — calcareous on concave face.  $6 \times 4 \times 1$  cm. Concave face — single cleavage plane with cone of percussion at end B. Convex face — longitudinally flaked.

At A is a stop-ridge. End F is roughly beveled to the edge, and at C is a small notch. At B is a facet at right angles to the two faces, which is part of the old nodular surface. The edges C and D are only slightly retouched by use, probably as a cutting tool.

Fig. 45. Cat. no.  $\frac{B}{743}$ , P. M. Wasif. (Figure shows convex face.)

Flint — dark — translucent. Patina — brown, mottled on concave face.  $7.5 \times 4.5 \times 1$  cm. Concave face — single cleavage plane with cone of percussion at end A. Convex face — several longitudinal facets.

Between B and C is a small facet at right angles to the two faces. On the convex face, this is slightly retouched. From G to E is a slightly beveled edge, finished as a front scraper. The edges D and F are retouched mainly on the convex face. At G and F are small notches for finger holds.

Fig. 46. Cat. no.  $\frac{B}{739}$ , P. M. Wasif. (Figure shows convex face.)

Flint — light — rather opaque. Patina — slight, mottled on end E of concave face.  $7.5 \times 5.5 \times 1.5$  cm. Concave face — single cleavage plane with cone of percussion at end E. Convex face — two longitudinal facets — with portion of original cortex at A.

The specimen is roughly triangular in shape. The edge between A and C shows some evidence of use as a scraper. The remainder of the edge is roughly retouched by use. At E is a blunt point. At D is a small notch, which gives end E a beak form.

Fig. 47. Cat. no.  $\frac{B}{744}$ , P. M. Wasif. (Figure shows convex face. For portion of concave face, see fig. 122.)

Flint — light — opaque. Patina — brown, dendritic on concave face. Incrustation — calcareous in spots, on convex face.  $8 \times 8 \times 2.5$  cm. Concave face — single cleavage surface with cone of percussion at E. Convex face — several longitudinal flakes removed from one end, leaving at A, a large amount of the old cortex. Striations — concave face, numerous, up to 5 cm. long, associated with dendritic patina. Cf. pl. 15, figs. 1 and 2, J. Lubbock, 'Notes on the discovery of stone implements in Egypt' (Jour. Anth. Inst., vol. 4, London, 1875, p. 215-222). Cf. also H. R. Hall, 'Palaeolithic implements from the Thebaïd' (Man, vol. 5, no. 19, London, 1905, p. 33-37) pl. C. The first of these shows specimens from Abydos, and the second from Thebes.

Between D and E flakes have been removed more or less at right angles to the two surfaces. End B is pointed, and around it the edges are retouched, from C to D. The remainder of the edge has no retouching. End B is thin, while the other end is thickened.

Fig. 48. Cat. no.  $\frac{B}{747}$ , P. M. Wasif. (Figure shows convex face.)

Flint — dark — translucent. Patina — yellow brown to dendritic. Incrustation — calcareous.  $8 \times 6 \times 1.5$  cm. Concave face — almost entirely an old nodular surface. Convex face — mainly two longitudinal facets.

Along the edges many small flakes have been removed. At A, a small surface has been worked at right angles to the two faces. At C is a shallow notch. Between C and D, and between B and D, fine retouching of the edge has taken place. At D is a blunt point. The remainder of the edge has not been retouched. The whole implement is roughly triangular.

Fig. 49. Cat. no.  $\frac{B}{760}$ , P. M. Hammama. (Figure shows convex face.)

Flint — light — translucent. Patina — slight. Specimen broken. 5 cm. wide, 1 cm. thick. Concave face — single cleavage surface with cone of percussion at D. Convex face — three longitudinal facets, one of these having reversed cone of percussion at C.

Between A and B, and between E and F, the edges are slightly retouched by use. Between B and F, a surface has been carefully worked at right angles to the two faces, by the removal of many small flakes. This shows slight use, possibly as a scraper. The whole appearance of this implement is at variance with the character of the remainder of the collection. It is possibly a modern gun flint.

Fig. 50. Cat. no.  $\frac{B}{758}$ , P. M. Hammama. (Figure shows convex face.)

Flint — opaque. Patina — brown, dendritic on concave face. Incrustation — calcareous in spots, on concave face.  $7.5 \times 5 \times 1.5$  cm. Concave face — single cleavage surface with cone of percussion probably at end E. Convex face — several irregular longitudinal facets.

Between A and D is a surface approximately at right angles to the two faces. The remainder of the edge is slightly retouched in use. At C is a blunt point, and at B, a slight notch.

Fig. 51. Cat. no.  $\frac{B}{757}$ , P. M. Hammama.

Flint — dark — opaque. Patina — brown.  $11 \times 9 \times 4$  cm. Flaking — one face, almost entirely old nodular surface — other face, several radial facets which appear more like natural fractures than cleavage planes due to human workmanship.

Between C and D is a facet which is a portion of an old fracture plane. Between D and E, the edge is slightly battered, and at F, is a shallow notch. The specimen appears to be only a reject, if it owes any of its shape to man.

Fig. 52. Cat. no.  $\frac{B}{756}$ , P. M. Hammama.

Flint — light — opaque. Patina — yellow brown to deep red brown. Incrustation — calcareous in spots.  $9 \times 6 \times 3$  cm. Flaking — one face entirely due to the action of exfoliation — other face probably also the result of natural agencies of which the process of exfoliation was the chief.

The sinuous edges show little if any evidence of use. It is doubtful if the stone shows any evidence of human workmanship.

Fig. 53. Cat. no.  $\frac{B}{759}$ , P. M. Hammama.

Flint — dark — opaque. Patina — one face, yellow brown — other face, slight.  $9 \times 5 \times 1.5$  cm. Flaking — one face, mainly old fracture plane, with radial facets along the edge from A to B on the lower side in the illustration — other face, several irregularly placed facets.

Between A and B is a facet at right angles to the two faces. The remainder of the edge is sinuous, and shows slight retouching due to use.



Fig. 54. Cat. no.  $\frac{B}{752}$ , P. M. Mahamid.

Flint — dark — translucent. Patina — brown. Incrustation — calcareous in spots.  $8 \times 7 \times 2.5$  cm. Flaking — one face, several longitudinal facets running in a general direction of E to D — other face (shown in the illustration), original cortex at A — radial facets along the edges.

Between B and C, the edge is unfinished and forms a facet more or less at right angles to the two faces. The remainder of the edge is beveled and sinuous, and shows retouching due to use. From D to E is a more or less straight edge. The whole implement is roughly discoidal, with one portion of the edge blunt.

Fig. 55. Cat. no.  $\frac{B}{753}$ , P. M. Mahamid.

Flint — white — opaque. Patina — light yellow on one face — yellow brown on other; mottled.  $8 \times 5 \times 1.5$  cm. Flaking — more or less radial on both faces — with a few small exfoliation facets.

Between A and B is a small facet at right angles to the two faces. The remainder of the edge is slightly wavy.

Fig. 56. Cat. no.  $\frac{B}{755}$ , P. M. Mahamid.

Material — fossiliferous chert.  $12 \times 7 \times 4$  cm. Flaking — both faces composed of radial facets which are probably due to natural agencies, perhaps exfoliation.

The edges show little or no sign of use. There seems to be no good reason to believe that this specimen is not purely natural.

Figs. 57 and 58. Cat. no.  $\frac{B}{754}$ , P. M. Mahamid.

Flint — dark — opaque. Patina — yellow brown on both faces, but the shade is not the same, mottled on one face.  $11 \times 10 \times 3$  cm. Flaking — radial on both faces.

The implement is discoidal. The edges are almost straight. Thus the implement resembles some of the finest Acheulean discs of Europe. There are two notches, A and B, in the edge, which serve for finger grasps.

Figs. 59 and 60. Cat. no.  $\frac{B}{28}$ , P. M. Haynes collection (pl. 2, fig. 6). Luxor.

Flint — dark — opaque. Patina — yellowish brown, lusterless — dendritic on face shown in fig. 60.  $12.5 \times 7 \times 4.5$  cm. Flaking — radial on both faces, flakes large — much weathered old surface A on both faces, probably the exterior of a water worn boulder rather than that of a flint nodule from its original matrix.

The maximum thickness occurs at B. This decreases rapidly along the much curved reversed cone of percussion C, and reaches a minimum of less than 1 cm. at D. Nowhere is there evidence of fine retouching of the edges, though they are everywhere battered. The implement as a whole is ovoid, with a blunt point at F. The form is roughly that of the cruder Chellean *coup-de-poing* of western Europe. The weathered surface A,

which has been retained, probably served as a convenient hand grasp. The retention of such old surfaces for hand holds is quite common in this site. The same thing occurs in the Eastern Desert (see fig. 47) although not so commonly, and is also found in many other Egyptian sites.<sup>7</sup>

Fig. 61 and 62. Cat. no.  $\frac{B}{33}$ , P. M. Haynes collection (pl. 3, fig. 7). Luxor.

Flint — light — opaque. Patina — light gray. Incrustations — calcareous in spots.  $8.5 \times 8 \times 3.5$  cm. Flaking — radial — portions of an old weathered surface A (probably the original cortex of the nodule, but somewhat water worn before the implement was chipped) forming almost a half of the face shown in fig. 63.

The maximum thickness is reached at B, and the minimum (1.5 cm.) at C. This thinning, as in the previous specimen, is the result of a sharply curved reversed cone of percussion. As in the case of the previous specimen, the retention of a portion of the old nodular exterior has supplied a smooth surface convenient for a hand grasp. Here, however, some of it was retained merely to avoid the unnecessary trouble of removing it. This leaving of a portion of the original nodule unchipped is quite characteristic of the Chellean period of western Europe.<sup>8</sup> The edge is fairly straight except at D, where the surface is rounded. At E and at F are notches which may be for convenience in holding. The implement is a roughly ovoid *coup-de-poing*. End D shows much battering.

Fig. 63 and 64. Cat. no.  $\frac{B}{50}$ , P. M. Haynes collection (pl. 1, fig. 1). Luxor.

Flint — light — opaque — much banded, as is seen in fig. 64. Patina — in general, yellow brown and lusterless, somewhat dendritic on face shown in fig. 63 — the bands bearing varying shades of gray and brown.  $14.5 \times 10 \times 3.5$  cm. Flaking — radial, flakes large — face shown in fig. 64 retaining old weathered surface A (apparently an old fracture plane) — face shown in fig. 63 retaining portion of the old cortex.

Except near the edges, the implement is fairly uniform in thickness. No fine retouching of the edges by design occurs. The edges are fairly straight, and between B and C, they have been much battered. At D is a stop-ridge on the edge. This may be related to the holding of the tool, since here the retained nodular surface is merely not in the way, and has no value as a hand grasp. The general form of the implement is that of an ovoid *coup-de-poing*. The retention of the old nodular surfaces on these implements and the coarseness of the chipping suggest the Chellean period of western Europe; but the straightness of the edges suggests the Acheulean.<sup>9</sup>

<sup>7</sup> C. T. Currelly, 'Stone implements' (Catalogue général des antiquités Égyptiennes du Musée du Caire, Cairo, 1913) pl. 2, figs. 63044, and 63049. W. M. F. Petrie, 'The stone age in Egypt' (Ancient Egypt, London, 1915, p. 59-76; 122-135) p. 60, fig. 9, p. 59.

<sup>8</sup> G. and A. de Mortillet, Musée préhistorique, Paris, 1881, description of pl. 7.

<sup>9</sup> J. Déchelette, Manuel d'archéologie préhistorique, Paris, 1908, vol. 1, p. 81.

Figs. 65 and 66. Cat. no.  $\frac{B}{30}$ , P. M. Haynes collection (pl. 3, fig. 2). Luxor.

Material — dark — opaque — imperfect flint — nodular mass of small quartz crystals at B, surrounded by a mass of flint D (enclosed by dotted line in the tracing) which is marked off sharply from the remainder of the material by a very definite line. Patina — face shown in fig. 66, yellow brown, dendritic — face shown in fig. 65, red brown on facets C, yellow brown on remainder of face. Incrustation — calcareous on face shown in fig. 66.  $9 \times 9 \times 4$  cm. Face shown in fig. 66 — radially flaked, but nearly flat. Face shown on fig. 65 — old fracture plane at A, surrounded by a series of facets C (dotted in the tracing) which appear to be artificially chipped, but may be old fracture planes — remainder of face a series of radial facets. Cf. G. Schweinfurth, 'Kiesel-Artefacte in der diluvialen Schotter-Terrasse und auf den Plateau-Höhen von Theben' (Zeit. f. Ethnol., vol. 34, Berlin, 1902, Verhandlungen, p. 293-310) pl. 10, figs. 1-3.

The thickest portion of the implement is near the center of the specimen. The *arêtes* of facets C are much worn, while of those of the remainder of the same face are fresh and sharp. The patina of the former is also much more abundant than that of the latter. If the first series are the result of human chipping, then we have here evidence to two stages of human work, separated by considerable time. In the case of the paleoliths from the Eastern Desert, we have clear evidence of just such a condition. If the same is true of this specimen, the original implement had apparently much the same form as the present one. Both faces are radially chipped, but this chipping has made a bevel only in the case of the face shown in fig. 65. The chipping is coarse, and there is no fine retouching by design of the edges, though all show retouching by use. The implement is roughly triangular. A nearly similar specimen from Thebes is figured by Currelly.<sup>10</sup>

Fig. 67 and 68. Cat. no.  $\frac{B}{29}$ , P. M. Haynes collection (pl. 3, fig. 1). Luxor.

Flint — dark — opaque. Patina — slight, grayish. Incrustation — calcareous in spots.  $10.5 \times 7 \times 3$  cm. Face shown in fig. 68 — nearly flat, in spite of the number of flakes removed from it. Face shown in fig. 67 — largely an old water worn nodular surface A (retained apparently as a smooth place for a hand hold), radially flaked on edges.

Except along the edges, the thickness is quite uniform. The upper edge, as shown in the figures, is a facet almost at right angles to these two faces, and has been determined largely by incipient fracture lines. Such an incipient fracture plane is shown by the dotted line B in the tracings. The remaining edges are beveled by coarse radial chipping. The whole implement is roughly rectangular.

Fig. 69 and 70. Cat. no.  $\frac{B}{21}$ , P. M. Haynes collection (pl. 1, fig. 2). Luxor.

Flint — dark — translucent — marked differences occur in the flint, the dotted lines B in the tracings indicating distinct bands. Patina — dirty yellow on face shown in fig. 70 — light yellow, slight, on face shown in fig. 69. Incrustation — calcareous in spots on face shown in fig. 69.  $14 \times 9 \times 4.5$  cm. Face shown in fig. 69 — mainly longitudinally flaked. Face shown in fig. 70 — radially flaked — large portion of old cortex retained at A, apparently simply because there was no need to remove it.

<sup>10</sup> C. T. Currelly, op. cit., pl. 10, fig. 63261.

There is not much variation in the thickness except along the edges. The large notch C is a facet nearly at right angles to the two faces. Its form has been determined largely by incipient fracture lines. The edges of the implement are very sinuous and much battered. The general form of the implement is that of an ovoid *coup-de-poing*. The waviness of the edges make it correspond more nearly with the implements of the Chellean period of western Europe than with those of the Acheulean.

Figs. 71 and 72. Cat. no.  $\frac{B}{26}$ , P. M. Haynes collection (pl. 2, fig. 4). Luxor.

Flint — light — opaque. Patina — in general, yellow brown, but varying much according to differences in the flint — lusterless on face shown in fig. 72, but with a pronounced luster on the other face.  $11 \times 7 \times 2$  cm. Flaking — irregular.

The thickest portion of the implement is at B. This, however, is but very little thicker than the remainder, except the portion along the edges. Around one end of the specimen and extending on to both faces is an old chalky surface A, which is evidently the remains of the exterior of a flat concretionary nodule, as it was found in its matrix. This has apparently been retained because of its usefulness as a hand hold. The other end has a surface more or less at right angles to the two faces. Neither end shows much sign of wear. The two edges are fairly straight, and show much evidence of use. The implement is roughly ovoid, and seems to have been used for cutting or scraping.

Figs. 73 and 74. Cat. no.  $\frac{B}{27}$ , P. M. Haynes collection (pl. 2, fig. 5). Luxor.

Flint — light — opaque. Patina — grayish yellow, slightly more developed on one face than on the other.  $11.5 \times 7 \times 2.5$  cm.

Except along the edges, the implement is fairly uniform in thickness. In three places (marked E) are masses of calcareous matter present in the flint. Between C and D is a facet at right angles to the two faces. Between A and B is another of these facets, which is composed of a portion of the original nodular surface. Both these ends show some evidence of use. The two edges are somewhat wavy, and are considerably retouched through use. The whole implement is roughly rectangular.

Fig. 75. Cat. no.  $\frac{B}{34}$ , P. M. Haynes collection (pl. 4, fig. 1). Luxor. (Figure shows convex face.)

Flint — light — opaque. Patina — concave face, grayish white in center, slight along edges — convex face, thin grayish white.  $13 \times 5.5 \times 1.5$  cm. Concave face — single cleavage surface with cone of percussion at A. Convex face — longitudinally flaked — portion of original cortex retained at C.

At B is a small worked notch. End A has a facet at right angles to the two faces. At E is another such surface, while at D is a large worked notch. This notch, as well as

It is a thin rectangular flake with secondary chipping on both ends and edges, mainly due to use. At B, two little notches have been worked in the edge. The ends A and C have had flakes removed at right angles to the two faces.

Fig. 30. Cat. no.  $\frac{B}{709}$ , P. M. Rabah. (Figure shows concave face.)

Flint — light — translucent. Patina — concave face, bright yellow in center, slight on edges — convex face, slight, dendritic.  $7 \times 4 \times 1$  cm. Concave face — several irregularly arranged facets. Convex face — flaking seems to have followed lines of incipient cleavage.

At A, a small portion of the original nodular surface remains. At B and C are facets approximately at right angles to the two faces.

Fig. 31. Cat. no.  $\frac{B}{731}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — opaque. Patina — yellow brown to red brown on both faces. Incrustation — some calcareous spots on concave face.  $7 \times 5 \times 1$  cm. Concave face — portion of a single cleavage plane. Convex face — several radial facets — a few small flakes having been removed by exfoliation.

At A, B, and H, facets have been worked at approximately right angles to the two faces. All of these show wear such as comes from use as scraping edges. At D is a shallow notch carefully worked. At one side of it, C, is a small projecting point, and, at E, a similar point has been broken off by a late accident. At F, the edge is slightly beveled from the convex face, and at G from the concave face. At I, the bevel is again from the concave face. Just below A is a stop-ridge. The whole implement is roughly ovoid, and apparently has been used mainly for scraping.

Fig. 32. Cat. no.  $\frac{B}{707}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — translucent. Patina — concave face, yellow brown in center, slight on edges — convex face, slight, dendritic.  $14 \times 6 \times 2$  cm. Concave face — single cleavage plane with cone of percussion at end B. Convex face — three longitudinal facets with a portion of the cortex at A.

End B has had a flake removed at right angles to the two faces. End E is retouched on the convex face as a scraper. The edges are worked on both faces. At D is a shallow notch, and at C are two other small ones. At G, the edge has been chipped back abruptly, and a projection left at F. This device seems to be intended as a hand grasp. In this specimen the portion of the original cortex which remains was left, not as a hand hold, but because it was not in the way.

Fig. 33. Cat. no.  $\frac{B}{708}$ , P. M. Rabah. (Figure shows convex face.)

Flint — light — translucent. Patina — concave face, red brown — convex face, dendritic. Incrustation — calcareous in spots on concave face.  $7 \times 6 \times 1.5$  cm. Concave face — single cleavage surface with cone of percussion probably at end A — a few small flakes having been removed from it by exfoliation. Convex face — several longitudinal facets.

The general form of the whole implement is ovoid. At A, two facets have been made at right angles to the two faces, and at C is another facet of the same sort. At B is a shallow groove. Most of the secondary chipping due to use occurs on the edge D, although the whole edge shows wear.

Fig. 34. Cat. no.  $\frac{B}{723}$ , P. M. Rabah. (Figure shows convex face.)

Flint — white — opaque. Patina — slight.  $9 \times 5 \times 1$  cm. Concave face — single cleavage plane with cone of percussion at end A. Convex face — several radial facets.

End A has a facet at right angles to the two faces. Its only other secondary chipping is a very small amount due to use, probably in scraping. There are two small notches at B, and that whole edge is retouched on the convex face. End C is slightly beveled from the convex face, and in it is one small notch. At E, there is a comparatively deep notch, and at D a projecting point. Just below D is another small notch, apparently made in chipping out the projection. The remainder of this edge is retouched on the concave face.

Fig. 35. Cat. no.  $\frac{B}{741}$ , P. M. Wasif. (Figure shows convex face.)

Flint — light — translucent. Patina — concave face, yellow in center, dendritic on edges — convex face, dark brown, mottled. Incrustation — calcareous spots on convex face.  $8.5 \times 7.5 \times 3$  cm. Concave face — single cleavage plane with reversed cone of percussion at E — along edge from I to G, small radial flakes forming a beveled edge. Convex face — flaking has followed natural lines of incipient fracture, if it is not entirely due to nature — portions of original cortex remaining at A, B, and C.

From D to G, there is a series of facets at right angles to the two faces, apparently to serve as a hand hold. At H is a blunt point. The entire edge of the specimen is sinuous, and shows a like amount of use. The thickest portion of the implement is at A

Fig. 36. Cat. no.  $\frac{B}{738}$ , P. M. Wasif. (Figure shows convex face.)

Flint — light — very translucent. Patina — concave face, light yellow, with waxy luster, more or less translucent — convex face, yellow in spots, thickly mottled, with facets at D (dotted in the tracing) scarcely patinated at all. Incrustation — calcareous in spots on convex face.  $8 \times 8 \times 2$  cm. Concave face — several longitudinal cleavage planes which run in the general direction of a line from B to E, *arêtes* sharp and fresh looking. Convex face — radially flaked, portion of cortex at A, *arêtes* rounded and smoothed over most of surface, but somewhat sharper between B and G, and sharp and fresh looking at D (dotted in the tracing).

Along edges B to G and E to C, flakes have been removed at right angles to the two faces. Between B and C, a facet of the concave face forms a bevel to the edge. The differences in sharpness of *arêtes*, patination, and incrustation on different portions of each face seem to indicate two distinct stages of chipping, the second stage forming the edge at D and the other face of the implement, while the remainder is the result of the first.

In the present form, the thickest part of the specimen is at F, and the edge from B to G is smooth, thus forming a hand hold. The remainder of the edge is sinuous and battered.

Fig. 37. Cat. no.  $\frac{B}{740}$ , P. M. Wasif.

Flint — dark — opaque. Patina — one face, dark brown — other face, red brown. Incrustation — calcareous in spots.  $11 \times 9 \times 3$  cm. Flaking — no sure traces of human workmanship.

With the possible exception of one small flake, one face is entirely due to nature. Most of it is an old fracture surface, though some small flakes have been removed by exfoliation. The other face is entirely the result of exfoliation. Such facets as are marked A in the tracing are certainly due to that cause, while in the case of facet B the evidence is almost as strong. Between F and C are facets at right angles to the two faces, but these also seem to have their origin in natural causes. There is slight evidence of use, mainly between D and E. I am inclined to think that this specimen is not an implement at all, but a purely natural form.

Fig. 38. Cat. no.  $\frac{B}{742}$ , P. M. Wasif. (Figure shows convex face.)

Flint — dark — opaque. Patina — brown. Incrustation — calcareous in spots.  $9 \times 6 \times 2$  cm. Concave face — single cleavage surface with cone of percussion probably at end B — at end E, several additional flakes having been removed to form a beveled edge. Convex face — several longitudinal facets.

Between A and C is a facet nearly at right angles to the two faces, which shows wear as if in scraping. Between A and G is a notch which seems to be a finger hold. Between F and D, the edge shows evidence of use as a scraper, while the remainder of the edge has secondary chipping due to use as a cutting tool. At E, there is a slight notch in the edge.

Fig. 39. Cat. no.  $\frac{B}{750}$ , P. M. Wasif.

Flint — dark — opaque. Patina — dark brown. Incrustation — calcareous.  $10 \times 8 \times 2.5$  cm. Flaking — presence of human workmanship doubtful.

One face consists entirely of old fracture surfaces and exfoliation pits. The other face which is shown in the illustration has had so many small scales removed by exfoliation, especially in the region A, that it is difficult to determine the type of chipping. Flakes appear to have been removed radially. At B has been worked a small notch. The remainder of the edge is sinuous, and shows some evidence of use. The specimen may be only a natural form utilized by man, or perhaps it is purely natural.

Fig. 40. Cat. no.  $\frac{B}{746}$ , P. M. Wasif. (Figure shows convex face.)

Flint — white — opaque. Patina — slight.  $10 \times 3.5 \times 1.5$  cm. Concave face — single cleavage plane with cone of percussion at C. Convex face — three longitudinal facets.

At A and at C are small facets at right angles to the two faces. Edge B is retouched on the convex face, while edge D shows secondary chipping due to use on both faces. The *arête* between the two facets meeting at A shows some secondary chipping due to use.

Fig. 41. Cat. no.  $\frac{B}{745}$ , P. M. Wasif. (Figure shows convex face.)

Flint — light — translucent. Patina — concave face, dirty brown, mottled — convex face, yellow brown.  $10 \times 5 \times 1$  cm. Concave face — probably an old fracture plane with an irregular cone of percussion at B. Convex face — longitudinally flaked.

At E, and between A and C, are facets at right angles to the two faces. Secondary chipping due to use occurs between A and F, and between D and C. This constitutes all the retouching which occurs on the specimen.

Fig. 42. Cat. no.  $\frac{B}{751}$ , P. M. Wasif. (Figure shows convex face.)

Flint — dark — translucent. Patina — brown, mottled. Incrustation — calcareous in spots.  $8 \times 3 \times 1$  cm. Concave face — mainly a single cleavage plane with cone of percussion at end A. Convex face — mainly longitudinal facets.

Between G and E, and between B and C, on the concave face, small flakes have been removed so as to make a slight bevel to the edge. End D has a somewhat steeper bevel. To the right of G on the convex face is a stop-ridge. End A appears to have been finished for a scraping edge, but there is no evidence that it was ever so used.

Fig. 43. Cat. no.  $\frac{B}{749}$ , P. M. Wasif. (Figure shows convex face.)

Flint — dark — translucent. Patina — concave face, grayish yellow, except at end D where it is slight — convex face, slight. Incrustation — calcareous on convex face.  $5.5 \times 4 \times 1$  cm. Concave face — single cleavage plane with cone of percussion at B. Convex face — several longitudinal facets — portion of cortex at A.

From E to C is a facet at right angles to the two faces. The two edges are retouched on the convex face. End D and edge F appear to have been used in scraping.

Fig. 44. Cat. no.  $\frac{B}{748}$ , P. M. Wasif. (Figure shows convex face.)

Flint — dark — translucent. Patina — concave face, brown, mottled — convex face, slight. Incrustation — calcareous on concave face.  $6 \times 4 \times 1$  cm. Concave face — single cleavage plane with cone of percussion at end B. Convex face — longitudinally flaked.

At A is a stop-ridge. End F is roughly beveled to the edge, and at C is a small notch. At B is a facet at right angles to the two faces, which is part of the old nodular surface. The edges C and D are only slightly retouched by use, probably as a cutting tool.



Fig. 45. Cat. no.  $\frac{B}{743}$ , P. M. Wasif. (Figure shows convex face.)

Flint — dark — translucent. Patina — brown, mottled on concave face.  $7.5 \times 4.5 \times 1$  cm. Concave face — single cleavage plane with cone of percussion at end A. Convex face — several longitudinal facets.

Between B and C is a small facet at right angles to the two faces. On the convex face, this is slightly retouched. From G to E is a slightly beveled edge, finished as a front scraper. The edges D and F are retouched mainly on the convex face. At G and F are small notches for finger holds.

Fig. 46. Cat. no.  $\frac{B}{739}$ , P. M. Wasif. (Figure shows convex face.)

Flint — light — rather opaque. Patina — slight, mottled on end E of concave face.  $7.5 \times 5.5 \times 1.5$  cm. Concave face — single cleavage plane with cone of percussion at end E. Convex face — two longitudinal facets — with portion of original cortex at A.

The specimen is roughly triangular in shape. The edge between A and C shows some evidence of use as a scraper. The remainder of the edge is roughly retouched by use. At E is a blunt point. At D is a small notch, which gives end E a beak form.

Fig. 47. Cat. no.  $\frac{B}{744}$ , P. M. Wasif. (Figure shows convex face. For portion of concave face, see fig. 122.)

Flint — light — opaque. Patina — brown, dendritic on concave face. Incrustation — calcareous in spots, on convex face.  $8 \times 8 \times 2.5$  cm. Concave face — single cleavage surface with cone of percussion at E. Convex face — several longitudinal flakes removed from one end, leaving at A, a large amount of the old cortex. Striations — concave face, numerous, up to 5 cm. long, associated with dendritic patina. Cf. pl. 15, figs. 1 and 2, J. Lubbock, 'Notes on the discovery of stone implements in Egypt' (Jour. Anth. Inst., vol. 4, London, 1875, p. 215-222). Cf. also H. R. Hall, 'Palaeolithic implements from the Thebaïd' (Man, vol. 5, no. 19, London, 1905, p. 33-37) pl. C. The first of these shows specimens from Abydos, and the second from Thebes.

Between D and E flakes have been removed more or less at right angles to the two surfaces. End B is pointed, and around it the edges are retouched, from C to D. The remainder of the edge has no retouching. End B is thin, while the other end is thickened.

Fig. 48. Cat. no.  $\frac{B}{747}$ , P. M. Wasif. (Figure shows convex face.)

Flint — dark — translucent. Patina — yellow brown to dendritic. Incrustation — calcareous.  $8 \times 6 \times 1.5$  cm. Concave face — almost entirely an old nodular surface. Convex face — mainly two longitudinal facets.

Along the edges many small flakes have been removed. At A, a small surface has been worked at right angles to the two faces. At C is a shallow notch. Between C and D, and between B and D, fine retouching of the edge has taken place. At D is a blunt point. The remainder of the edge has not been retouched. The whole implement is roughly triangular.

Fig. 49. Cat. no.  $\frac{B}{760}$ , P. M. Hammama. (Figure shows convex face.)

Flint — light — translucent. Patina — slight. Specimen broken. 5 cm. wide, 1 cm. thick. Concave face — single cleavage surface with cone of percussion at D. Convex face — three longitudinal facets, one of these having reversed cone of percussion at C.

Between A and B, and between E and F, the edges are slightly retouched by use. Between B and F, a surface has been carefully worked at right angles to the two faces, by the removal of many small flakes. This shows slight use, possibly as a scraper. The whole appearance of this implement is at variance with the character of the remainder of the collection. It is possibly a modern gun flint.

Fig. 50. Cat. no.  $\frac{B}{758}$ , P. M. Hammama. (Figure shows convex face.)

Flint — opaque. Patina — brown, dendritic on concave face. Incrustation — calcareous in spots, on concave face.  $7.5 \times 5 \times 1.5$  cm. Concave face — single cleavage surface with cone of percussion probably at end E. Convex face — several irregular longitudinal facets.

Between A and D is a surface approximately at right angles to the two faces. The remainder of the edge is slightly retouched in use. At C is a blunt point, and at B, a slight notch.

Fig. 51. Cat. no.  $\frac{B}{757}$ , P. M. Hammama.

Flint — dark — opaque. Patina — brown.  $11 \times 9 \times 4$  cm. Flaking — one face, almost entirely old nodular surface — other face, several radial facets which appear more like natural fractures than cleavage planes due to human workmanship.

Between C and D is a facet which is a portion of an old fracture plane. Between D and E, the edge is slightly battered, and at F, is a shallow notch. The specimen appears to be only a reject, if it owes any of its shape to man.

Fig. 52. Cat. no.  $\frac{B}{756}$ , P. M. Hammama.

Flint — light — opaque. Patina — yellow brown to deep red brown. Incrustation — calcareous in spots.  $9 \times 6 \times 3$  cm. Flaking — one face entirely due to the action of exfoliation — other face probably also the result of natural agencies of which the process of exfoliation was the chief.

The sinuous edges show little if any evidence of use. It is doubtful if the stone shows any evidence of human workmanship.

Fig. 53. Cat. no.  $\frac{B}{759}$ , P. M. Hammama.

Flint — dark — opaque. Patina — one face, yellow brown — other face, slight.  $9 \times 5 \times 1.5$  cm. Flaking — one face, mainly old fracture plane, with radial facets along the edge from A to B on the lower side in the illustration — other face, several irregularly placed facets.

Between A and B is a facet at right angles to the two faces. The remainder of the edge is sinuous, and shows slight retouching due to use.

Fig. 54. Cat. no.  $\frac{B}{752}$ , P. M. Mahamid.

Flint — dark — translucent. Patina — brown. Incrustation — calcareous in spots.  $8 \times 7 \times 2.5$  cm. Flaking — one face, several longitudinal facets running in a general direction of E to D — other face (shown in the illustration), original cortex at A — radial facets along the edges.

Between B and C, the edge is unfinished and forms a facet more or less at right angles to the two faces. The remainder of the edge is beveled and sinuous, and shows retouching due to use. From D to E is a more or less straight edge. The whole implement is roughly discoidal, with one portion of the edge blunt.

Fig. 55. Cat. no.  $\frac{B}{753}$ , P. M. Mahamid.

Flint — white — opaque. Patina — light yellow on one face — yellow brown on other; mottled.  $8 \times 5 \times 1.5$  cm. Flaking — more or less radial on both faces — with a few small exfoliation facets.

Between A and B is a small facet at right angles to the two faces. The remainder of the edge is slightly wavy.

Fig. 56. Cat. no.  $\frac{B}{755}$ , P. M. Mahamid.

Material — fossiliferous chert.  $12 \times 7 \times 4$  cm. Flaking — both faces composed of radial facets which are probably due to natural agencies, perhaps exfoliation.

The edges show little or no sign of use. There seems to be no good reason to believe that this specimen is not purely natural.

Figs. 57 and 58. Cat. no.  $\frac{B}{754}$ , P. M. Mahamid.

Flint — dark — opaque. Patina — yellow brown on both faces, but the shade is not the same, mottled on one face.  $11 \times 10 \times 3$  cm. Flaking — radial on both faces.

The implement is discoidal. The edges are almost straight. Thus the implement resembles some of the finest Acheulean discs of Europe. There are two notches, A and B, in the edge, which serve for finger grasps.

Figs. 59 and 60. Cat. no.  $\frac{B}{28}$ , P. M. Haynes collection (pl. 2, fig. 6). Luxor.

Flint — dark — opaque. Patina — yellowish brown, lusterless — dendritic on face shown in fig. 60.  $12.5 \times 7 \times 4.5$  cm. Flaking — radial on both faces, flakes large — much weathered old surface A on both faces, probably the exterior of a water worn boulder rather than that of a flint nodule from its original matrix.

The maximum thickness occurs at B. This decreases rapidly along the much curved reversed cone of percussion C, and reaches a minimum of less than 1 cm. at D. Nowhere is there evidence of fine retouching of the edges, though they are everywhere battered. The implement as a whole is ovoid, with a blunt point at F. The form is roughly that of the cruder Chellean *coup-de-poing* of western Europe. The weathered surface A,

which has been retained, probably served as a convenient hand grasp. The retention of such old surfaces for hand holds is quite common in this site. The same thing occurs in the Eastern Desert (see fig. 47) although not so commonly, and is also found in many other Egyptian sites.<sup>7</sup>

Fig. 61 and 62. Cat. no.  $\frac{B}{33}$ , P. M. Haynes collection (pl. 3, fig. 7). Luxor.

Flint — light — opaque. Patina — light gray. Incrustations — calcareous in spots.  $8.5 \times 8 \times 3.5$  cm. Flaking — radial — portions of an old weathered surface A (probably the original cortex of the nodule, but somewhat water worn before the implement was chipped) forming almost a half of the face shown in fig. 63.

The maximum thickness is reached at B, and the minimum (1.5 cm.) at C. This thinning, as in the previous specimen, is the result of a sharply curved reversed cone of percussion. As in the case of the previous specimen, the retention of a portion of the old nodular exterior has supplied a smooth surface convenient for a hand grasp. Here, however, some of it was retained merely to avoid the unnecessary trouble of removing it. This leaving of a portion of the original nodule unchipped is quite characteristic of the Chellean period of western Europe.<sup>8</sup> The edge is fairly straight except at D, where the surface is rounded. At E and at F are notches which may be for convenience in holding. The implement is a roughly ovoid *coup-de-poing*. End D shows much battering.

Fig. 63 and 64. Cat. no.  $\frac{B}{50}$ , P. M. Haynes collection (pl. 1, fig. 1). Luxor.

Flint — light — opaque — much banded, as is seen in fig. 64. Patina — in general, yellow brown and lusterless, somewhat dendritic on face shown in fig. 63 — the bands bearing varying shades of gray and brown.  $14.5 \times 10 \times 3.5$  cm. Flaking — radial, flakes large — face shown in fig. 64 retaining old weathered surface A (apparently an old fracture plane) — face shown in fig. 63 retaining portion of the old cortex.

Except near the edges, the implement is fairly uniform in thickness. No fine retouching of the edges by design occurs. The edges are fairly straight, and between B and C, they have been much battered. At D is a stop-ridge on the edge. This may be related to the holding of the tool, since here the retained nodular surface is merely not in the way, and has no value as a hand grasp. The general form of the implement is that of an ovoid *coup-de-poing*. The retention of the old nodular surfaces on these implements and the coarseness of the chipping suggest the Chellean period of western Europe; but the straightness of the edges suggests the Acheulean.<sup>9</sup>

<sup>7</sup> C. T. Currelly, 'Stone implements' (Catalogue général des antiquités Égyptiennes du Musée du Caire, Cairo, 1913) pl. 2, figs. 63044, and 63049. W. M. F. Petrie, 'The stone age in Egypt' (Ancient Egypt, London, 1915, p. 59-76; 122-135) p. 60, fig. 9, p. 59.

<sup>8</sup> G. and A. de Mortillet, Musée préhistorique, Paris, 1881, description of pl. 7.

<sup>9</sup> J. Déchelette, Manuel d'archéologie préhistorique, Paris, 1908, vol. 1, p. 81.

Figs. 65 and 66. Cat. no.  $\frac{B}{30}$ , P. M. Haynes collection (pl. 3, fig. 2). Luxor.

Material — dark — opaque — imperfect flint — nodular mass of small quartz crystals at B, surrounded by a mass of flint D (enclosed by dotted line in the tracing) which is marked off sharply from the remainder of the material by a very definite line. Patina — face shown in fig. 66, yellow brown, dendritic — face shown in fig. 65, red brown on facets C, yellow brown on remainder of face. Incrustation — calcareous on face shown in fig. 66.  $9 \times 9 \times 4$  cm. Face shown in fig. 66 — radially flaked, but nearly flat. Face shown on fig. 65 — old fracture plane at A, surrounded by a series of facets C (dotted in the tracing) which appear to be artificially chipped, but may be old fracture planes — remainder of face a series of radial facets. Cf. G. Schweinfurth, 'Kiesel-Artefacte in der diluvialen Schotter-Terrasse und auf den Plateau-Höhen von Theben' (Zeit. f. Ethnol., vol. 34, Berlin, 1902, Verhandlungen, p. 293-310) pl. 10, figs. 1-3.

The thickest portion of the implement is near the center of the specimen. The *arêtes* of facets C are much worn, while of those of the remainder of the same face are fresh and sharp. The patina of the former is also much more abundant than that of the latter. If the first series are the result of human chipping, then we have here evidence to two stages of human work, separated by considerable time. In the case of the paleoliths from the Eastern Desert, we have clear evidence of just such a condition. If the same is true of this specimen, the original implement had apparently much the same form as the present one. Both faces are radially chipped, but this chipping has made a bevel only in the case of the face shown in fig. 65. The chipping is coarse, and there is no fine retouching by design of the edges, though all show retouching by use. The implement is roughly triangular. A nearly similar specimen from Thebes is figured by Currelly.<sup>10</sup>

Fig. 67 and 68. Cat. no.  $\frac{B}{29}$ , P. M. Haynes collection (pl. 3, fig. 1). Luxor.

Flint — dark — opaque. Patina — slight, grayish. Incrustation — calcareous in spots.  $10.5 \times 7 \times 3$  cm. Face shown in fig. 68 — nearly flat, in spite of the number of flakes removed from it. Face shown in fig. 67 — largely an old water worn nodular surface A (retained apparently as a smooth place for a hand hold), radially flaked on edges.

Except along the edges, the thickness is quite uniform. The upper edge, as shown in the figures, is a facet almost at right angles to these two faces, and has been determined largely by incipient fracture lines. Such an incipient fracture plane is shown by the dotted line B in the tracings. The remaining edges are beveled by coarse radial chipping. The whole implement is roughly rectangular.

Fig. 69 and 70. Cat. no.  $\frac{B}{21}$ , P. M. Haynes collection (pl. 1, fig. 2). Luxor.

Flint — dark — translucent — marked differences occur in the flint, the dotted lines B in the tracings indicating distinct bands. Patina — dirty yellow on face shown in fig. 70 — light yellow, slight, on face shown in fig. 69. Incrustation — calcareous in spots on face shown in fig. 69.  $14 \times 9 \times 4.5$  cm. Face shown in fig. 69 — mainly longitudinally flaked. Face shown in fig. 70 — radially flaked — large portion of old cortex retained at A, apparently simply because there was no need to remove it.

<sup>10</sup> C. T. Currelly, op. cit., pl. 10, fig. 63261.

There is not much variation in the thickness except along the edges. The large notch C is a facet nearly at right angles to the two faces. Its form has been determined largely by incipient fracture lines. The edges of the implement are very sinuous and much battered. The general form of the implement is that of an ovoid *coup-de-poing*. The waviness of the edges make it correspond more nearly with the implements of the Chellean period of western Europe than with those of the Acheulean.

Figs. 71 and 72. Cat. no.  $\frac{B}{26}$ , P. M. Haynes collection (pl. 2, fig. 4). Luxor.

Flint — light — opaque. Patina — in general, yellow brown, but varying much according to differences in the flint — lusterless on face shown in fig. 72, but with a pronounced luster on the other face.  $11 \times 7 \times 2$  cm. Flaking — irregular.

The thickest portion of the implement is at B. This, however, is but very little thicker than the remainder, except the portion along the edges. Around one end of the specimen and extending on to both faces is an old chalky surface A, which is evidently the remains of the exterior of a flat concretionary nodule, as it was found in its matrix. This has apparently been retained because of its usefulness as a hand hold. The other end has a surface more or less at right angles to the two faces. Neither end shows much sign of wear. The two edges are fairly straight, and show much evidence of use. The implement is roughly ovoid, and seems to have been used for cutting or scraping.

Figs. 73 and 74. Cat. no.  $\frac{B}{27}$ , P. M. Haynes collection (pl. 2, fig. 5). Luxor.

Flint — light — opaque. Patina — grayish yellow, slightly more developed on one face than on the other.  $11.5 \times 7 \times 2.5$  cm.

Except along the edges, the implement is fairly uniform in thickness. In three places (marked E) are masses of calcareous matter present in the flint. Between C and D is a facet at right angles to the two faces. Between A and B is another of these facets, which is composed of a portion of the original nodular surface. Both these ends show some evidence of use. The two edges are somewhat wavy, and are considerably retouched through use. The whole implement is roughly rectangular.

Fig. 75. Cat. no.  $\frac{B}{34}$ , P. M. Haynes collection (pl. 4, fig. 1). Luxor. (Figure shows convex face.)

Flint — light — opaque. Patina — concave face, grayish white in center, slight along edges — convex face, thin grayish white.  $13 \times 5.5 \times 1.5$  cm. Concave face — single cleavage surface with cone of percussion at A. Convex face — longitudinally flaked — portion of original cortex retained at C.

At B is a small worked notch. End A has a facet at right angles to the two faces. At E is another such surface, while at D is a large worked notch. This notch, as well as

the two edges, shows secondary retouching due to use. Except for notch D, the specimen is roughly rectangular.

Figs. 76 and 77. Cat. no.  $\frac{B}{32}$ , P. M. Haynes collection (pl. 3, fig. 6). Luxor.

Flint — light — opaque. Patina — red brown — considerable black dendritic discoloration in spots.  $11 \times 7 \times 3.5$  cm. Flaking — irregularly radial.

At A, there remains a portion of the original nodular surface, containing a fossil impression of a small shell. The edges are rather wavy and much battered. The form of the whole is roughly ovoid.

Fig. 78 and 79. Cat. no.  $\frac{B}{44}$ , P. M. Haynes collection (pl. 5, fig. 6). Luxor.

Flint — light — opaque. Patina — yellow to red brown, dendritic. Incrustation — calcareous in spots.  $7 \times 7.5 \times 3$  cm. Face shown in fig. 79 — longitudinally flaked. Face shown in fig. 78 — roughly radially flaked — portion of original cortex retained at A.

The implement is roughly a triangle with the apex cut off and the base concave. On the base there is considerable evidence of use, while the other edges show little or no such marks. Currelly<sup>11</sup> figures eleven specimens of this type, all from near Thebes. I have been unable to find the type elsewhere. Possibly, therefore, it is of local development.

Figs. 80 and 81. Cat. no.  $\frac{B}{22}$ , P. M. Haynes collection (pl. 1, fig. 4). Luxor.

Flint — dark — opaque. Patina — bluish.  $11 \times 9.5 \times 3$  cm. Flaking — radial — face shown in fig. 80, mainly an old nodular surface A, retained apparently because it was merely useless to remove it. Cf. G. Schweinfurth, 'Kiesel-Artefacte in der diluvialen Schotter-Terrasse und auf den Plateau-Höhen von Theben' (Zeit. f. Ethnol., vol. 34, Berlin, 1902, Verhandlungen, p. 293-310) pl. 10, figs. 4 and 5.

Its thickness is uniform except along the edges, where it is beveled from the face shown in figure 80. The general form of the implement is roughly discoidal. This disc is much more coarsely chipped than those from the Eastern Desert, as shown in figs. 19, 57 and 58.

Figs. 82 and 83. Cat. no.  $\frac{B}{23}$ , P. M. Haynes collection (pl. 1, fig. 5). Luxor.

Flint — light — opaque. Patina — face shown in fig. 83, lusterless yellow — face shown in fig. 82, slight.  $12 \times 10 \times 2.5$  cm. Flaking — radial — coarse — face shown in fig. 82, largely old nodular surface A, which appears to be the exterior of a water worn boulder.

The thickness is uniform except along the edges, where it is beveled from the face shown in fig. 82. The face shown in fig. 83 is flat, in spite of the many facets composing it. This implement, like the preceding one, is roughly discoidal.

<sup>11</sup> C. T. Currelly, op. cit., pl. 7, figs. 63167 to 63177. Cf. Pitt Rivers, 'On the discovery of chert implements in stratified gravel in the Nile valley near Thebes' (Jour. Anthr. Inst., vol. 11, London, 1882, p. 382-400) pl. 30: H. R. Hall, 'Palaeolithic implements from the Thebaid' (Man, vol. 5, no. 19, London, 1905, p. 33-37) pl. C. This may possibly be type 57 of G. Schweinfurth 'Steinzeitliche Forschungen in Oberägypten' (Zeit. f. Ethnol., vol. 36, Berlin, 1904, p. 766-830) p. 811.

Fig. 84. Cat. no.  $\frac{B}{42}$ , P. M. Haynes collection (pl. 5, fig. 4). Luxor. (Figure shows convex face.)

Flint — light — opaque. Patina — lusterless gray.  $6.5 \times 5.5 \times 2.5$  cm. Flaking — radial on both faces.

It is ovoid in shape and has its edges beveled. The *arêtes* of one face show some sand blasting. The edge is wavy, and shows little evidence of use. The specimen seems to be a partly finished form rather than an implement.

Figs. 85 and 86. Cat. no.  $\frac{B}{50}$ , P. M. Haynes collection (pl. 6, fig. 1). Luxor.

Flint — light — opaque. Patina — face shown in fig. 86, light yellow brown — face shown in fig. 85, slight.  $5.5 \times 4.5 \times 2$  cm. Flaking — irregular.

The thickest portion is between A and B. From this line, toward edge C, there is a gradual bevel, and along edge D is a facet almost at right angles to the two faces. The edge D seems to have served as a scraper.

Figs. 87 and 88. Cat. no.  $\frac{B}{49}$ , P. M. Haynes collection (pl. 5, fig. 12). Luxor.

Flint — dark — slightly translucent. Patina — face shown in fig. 87 (except facets shown on lower side of illustration) and facets marked B, red brown — remainder of specimen, slight.  $8 \times 4 \times 2$  cm. Face shown in fig. 87 — old nodular surface A — several facets, heavily patinated, with *arêtes* worn, in upper right hand corner of the illustration — several facets, but slightly patinated, with fresh *arêtes*, lower part of illustration. Face shown in fig. 88 — at B, old much patinated facet — with radial facets, but slightly patinated, along the edges.

The edges are beveled — the one mainly from one face, and the other almost entirely from the other face. The edges show considerable evidence of use. End C has a small facet at right angles to the two faces, but otherwise it is unworked. This specimen seems to show evidence of two stages of chipping. The type of implement has probably been changed by the second stage.

Fig. 89. Cat. no.  $\frac{B}{56}$ , P. M. Haynes collection (pl. 6, fig. 8). Luxor. (Figure shows convex face.)

Flint — light — opaque. Patina — concave face, reddish brown — convex face, yellow brown.  $9 \times 5 \times 2.5$  cm. Concave face — single cleavage surface with cone of percussion at E. Convex face — irregular radial flaking — old cortex at A, retained apparently because it was not in the way.

The thickest portion is along the line between B and C. From this toward edge D is a gradual bevel, which is entirely on the face shown in the illustration. The edge D has very coarse retouching while edge F has fine retouching as a scraper.

Fig. 90. Cat. no.  $\frac{B}{53}$ , P. M. Haynes collection (pl. 6, fig. 4). Luxor. (Figure shows convex face.)

Flint — light — translucent. Patina — slight.  $8 \times 6 \times 1$  cm. Flaking — longitudinal.



The implement is roughly triangular in shape, with edges B and C crudely retouched. Edge A forms a facet at right angles to the two faces. At E is a slight notch, and at D, a small projection. The point F is blunt. The implement recalls the *pointe moustérienne* of western Europe.

Fig. 91. Cat. no.  $\frac{B}{36}$ , P. M. Haynes collection (pl. 4, fig. 4). Luxor. (Figure shows convex face.)

Flint — light — opaque. Patina — reddish brown — dendritic in spots.  $11 \times 5.5 \times 1.5$  cm. Concave face — single cleavage surface. Convex face — four longitudinal facets — portion of original cortex at A.

The thickest portion of the implement is along the median ridge. From B to C is a small facet at right angles to the two faces. The remainder of the edge is coarsely retouched.

Fig. 92. Cat. no.  $\frac{B}{52}$ , P. M. Haynes collection (pl. 6, fig. 3). Luxor. (Figure shows convex face.)

Flint — light — opaque. Patina — slight.  $8 \times 4 \times 2$  cm. Concave face — single cleavage surface with reversed cone of percussion probably near E. Convex face — several longitudinal facets, one of which (A) is a portion of the old nodular surface.

The thickest portion of the implement is at D. At B is a stop-ridge. End C is retouched in the form of a snub-nosed front scraper. Edge F is slightly retouched.

Fig. 93. Cat. no.  $\frac{B}{38}$ , P. M. Haynes collection (pl. 4, fig. 6). Luxor. (Figure shows convex face.)

Flint — light — opaque. Patina — reddish brown.  $11 \times 3.5 \times 1.5$  cm. Concave face — single cleavage plane with cone of percussion at A. Convex face — three longitudinal facets.

The thickest portion of the implement is along the median ridge. Retouching of the edges has occurred on both faces. At B, a slight notch has been worked from the concave face, and at C, another from the convex face. Both ends have facets approximately at right angles to the two faces.

Fig. 94. Cat. no.  $\frac{B}{35}$ , P. M. Haynes collection (pl. 4, fig. 3). Luxor. (Figure shows convex face.)

Flint — light — opaque — at A, an area of intensely black flint, sharply marked off from the rest of the material. Patina — grayish.  $13 \times 5 \times 2$  cm. Concave face — single cleavage plane with cone of percussion at B. Convex face — three longitudinal facets. Cf. G. Schweinfurth, 'Kiessel-Artefakte in der diluvialen Schotter-Terrasse und auf den Plateau-Höhen von Theben' (Zeit. f. Ethnol., vol. 34, Berlin, 1902, Verhandlungen, p. 293-310) pl. 11, figs. 4 and 5.

The thickest portion of the implement is along the median ridge. Both ends have facets approximately at right angles to the two faces. Both edges are coarsely worked, mainly on the convex face.

Fig. 95. Cat. no.  $\frac{B}{46}$ , P. M. Haynes collection (pl. 5, fig. 8). Luxor. (Figure shows convex face.)

Flint — light — opaque. Patina — slight.  $6.5 \times 5 \times 1.5$  cm. Flaking — irregular radial.

The edges are wavy and only very coarsely worked. The whole implement is roughly triangular in shape, with two edges somewhat convex, and the other slightly concave. All portions of the edge show approximately the same amount of use.

Fig. 96. Cat. no.  $\frac{B}{47}$ , P. M. Haynes collection (pl. 5, fig. 9). Luxor. (Figure shows convex face.)

Flint — light — opaque. Patina — concave face, yellowish — convex face, slight.  $7 \times 4.5 \times 2.5$  cm. Concave face — single cleavage surface. Convex face — radially flaked — portion of cortex retained at A.

The thickest portion of the implement is at D. From D, end C is steeply beveled. It shows some evidence of use as a scraper. End B has considerable polish, probably due to use.

Fig. 97. Cat. no.  $\frac{B}{60}$ , P. M. Haynes collection (pl. 7, fig. 8). Luxor. (Figure shows convex face.)

Flint — light — opaque. Patina — brownish.  $6 \times 6 \times 2$  cm. Concave face — single cleavage surface with cone of percussion at A. Convex face — four longitudinal facets.

The implement is nearly uniform in thickness. End A has a facet approximately at right angles to the two faces. The remainder of the edge is beveled from the convex face. The whole edge seems to have been used for scraping. The implement is practically square.

Fig. 98. Cat. no.  $\frac{B}{48}$ , P. M. Haynes collection (pl. 5, fig. 11). Luxor. (Figure shows convex face.)

Flint — dark — translucent. Patina — slight.  $8 \times 4 \times 1.5$  cm. Concave face — mainly a single cleavage plane, with a few small radial facets along its edges. Convex face — radially flaked — portion of original cortex at A. Cf. H. R. Hall, 'Palaeolithic implements from the Thebaïd' (Man, vol. 5, no. 19, London, 1905, p. 33-37) pl. C.

The thickest portion of the implement is along the median ridge. End B shows no retouching, but the remainder of the edge shows retouching through use.

Figs. 99 and 100. Cat. no.  $\frac{B}{31}$ , P. M. Haynes collection (pl. 3, fig. 3). Luxor.

Flint — dark — translucent. Patina — slight.  $8.5 \times 5.5 \times 2.5$  cm. Flaking — radial — portion of original cortex retained at A — portion of old fracture plane retained at B.

The edges are wavy and show retouching due to use. The form of the whole is roughly ovoid.

Fig. 101. Cat. no.  $\frac{B}{54}$ , P. M. Haynes collection (pl. 6, fig. 6). Luxor. (Figure shows convex face.)

Flint — light — opaque. Patina — slight.  $1.5 \times 4.5 \times 2.5$  cm. Concave face — single cleavage plane. Convex face — mainly old nodular surface A, with some radial chipping along the edge.

The thickest portion of the implement is along the median line. Between B and C, the width has been much constricted to form a sort of handle, and end D is pointed. This end, however, shows little sign of use, while both the edges show much.

Figs. 102 and 103. Cat. no.  $\frac{B}{41}$ , P. M. Haynes collection (pl. 5, fig. 3). Luxor.

Flint — light — translucent. Patina — face shown in fig. 103, light brown — face shown in fig. 102, slight.  $9 \times 6.5 \times 2.5$  cm. Flaking — longitudinal — portion of cortex retained at A.

The thickest portion of the implement is at A. Between B and C is a facet approximately at right angles to the two faces. The edge here shows but little evidence of use. The remainder of the edge shows considerable secondary chipping due to use, and this is especially pronounced near the point D.

Fig. 104. Cat. no.  $\frac{B}{59}$ , P. M. Haynes collection (pl. 7, fig. 6). Luxor. (Figure shows convex face.)

Flint — light — translucent. Patina — slight.  $5 \times 4 \times 1$  cm. Concave face — single cleavage plane with cone of percussion at F. Convex face — radially flaked.

There is a small notch at A, another at B, and there are two near C. Between D and E, retouching has made a facet approximately at right angles to the two faces. The edge on all sides has been slightly retouched. This may be a modern gun flint, or possibly a broken fragment of an implement of the type shown in fig. 98, reworked as a *grattoir*. Possibly neolithic.

Figs. 105 and 106. Cat. no.  $\frac{B}{45}$ , P. M. Haynes collection (pl. 5, fig. 7). Luxor.

Flint — dark — translucent. Patina — slight.  $6 \times 5 \times 1.5$  cm. Flaking — radial — portion of original cortex retained at A.

The whole implement is triangular, with a rounded base, and is exactly similar to many of the neolithic forms from the Fayûm.<sup>12</sup>

<sup>12</sup> C. T. Currelly, op. cit., pl. 25. The Fayûm collection in the Peabody Museum contains many specimens of this type.

Fig. 107 and 108. Cat. no.  $\frac{B}{39}$ , P. M. Haynes collection (pl. 5, fig. 1). Luxor.

Flint — light — opaque — striped with bands parallel to the two faces. Patina — face shown in fig. 108, dull yellow — face shown in fig. 107, varied, following the different bands of flint.  $7 \times 5.5 \times 2$  cm. Face shown in fig. 108 — radially flaked — nearly flat, except for a slight bevel along the edge. Face shown in fig. 107 — radially flaked — portions of original cortex retained at A.

The thickest portion of the implement is along the median ridge. From the surface A, there is a pronounced bevel to the edges. The whole implement is roughly rectangular. The edges are slightly wavy and show little sign of use.

Fig. 109. Cat. no.  $\frac{B}{40}$ , P. M. Haynes collection (pl. 5, fig. 2). Luxor. (Figure shows the more convex face.)

Flint — light — translucent. Patina — slight.  $8 \times 5.5 \times 2.5$  cm. Flaking — radial — leaving one face nearly flat.

The thickest portion of the implement is in the region of B. There is a pronounced beveling to the edges on the face shown in illustration. At A, a portion of the original nodular surface has been retained. Between C and D is a celt-like edge. Between E and F occurs a narrowing of the whole to form a handle. The edges of the implement are retouched except at G.

Fig. 110. Cat. no.  $\frac{B}{51}$ , P. M. Haynes collection (pl. 6, fig. 2). Luxor. (Figure shows convex face.)

Flint — dark — translucent. Patina — slight.  $7 \times 4 \times 1.5$  cm. Concave face — single cleavage plane with cone of percussion at B. Convex face — four longitudinal facets.

The thickest portion of the implement is at A. At B is a small facet at right angles to the two faces. Between C and D, the edge has been worked to the form of a snub-nosed front scraper. The remainder of the edge has slight secondary chipping due to use. Possibly neolithic.

Fig. 111. Cat. no.  $\frac{B}{55}$ , P. M. Haynes collection (pl. 6, fig. 7). Luxor.

Flint — light — translucent. Patina — yellowish to gray.  $7.5 \times 4.5 \times 2$  cm. Flaking — radial.

The thickest portion of the implement is along a longitudinal median line. The form of the implement is roughly rectangular. The edges are fairly straight, and finely retouched. Possibly neolithic.

Fig. 112. Cat. no.  $\frac{B}{62}$ , P. M. Haynes collection (pl. 7, fig. 13). Luxor.

Flint — light — translucent. Patina — slight to yellowish.  $7 \times 4.5 \times 3$  cm. It is evidently a core and might belong to any of the ages of stone.

Fig. 113 and 114. Cat. no.  $\frac{B}{37}$ , P. M. Haynes collection (pl. 4, fig. 5). Luxor.

Flint — dark — translucent. Patina — slight.  $10 \times 5.5 \times 2.5$  cm. Flaking — radial — portion of original cortex retained at A.

The edges are wavy, and show secondary chipping due to use.

Fig. 115. Cat. no.  $\frac{B}{43}$ , P. M. Haynes collection (pl. 5, fig. 5). Luxor.

Flint — light — opaque. Patina — grayish — thick. Flaking — radial.

The implement is fairly uniform in thickness. The *arêtes* are so much worn that it is difficult to say whether the chipping is artificial or not. The edges are wavy, and appear to be battered through use. This may, however, be the result of the same forces as wore down the *arêtes*.

Fig. 116. Cat. no.  $\frac{B}{61}$ , P. M. Haynes collection (pl. 7, fig. 9). Luxor.

Flint — light — opaque. Patina — grayish.  $7 \times 5.5 \times 3$  cm. Face shown in illustration — radially flaked. Other face — longitudinally flaked.

Between B and C has been formed a rough celt edge. At A, a large amount of imperfect flint has interfered with the chipping. The edges of the specimen show no sign of use. It appears to be a reject.

Fig. 117. Cat. no.  $\frac{B}{57}$ , P. M. Haynes collection (pl. 6, fig. 9). Luxor.

Material — quartzitic sandstone.  $8.5 \times 7 \times 2$  cm. Flaking — radial.

At A, a portion of the original boulder surface has been retained. There is no conclusive proof that the specimen has been artificially shaped.

Fig. 118. Cat. no.  $\frac{B}{58}$ , P. M. Haynes collection (pl. 6, fig. 10). Luxor.

Flint — light — opaque. Patina — brownish yellow.  $7.5 \times 7 \times 4$  cm. It is evidently a core, which might belong to any of the ages of stone.

Fig. 119. Cat. no.  $\frac{B}{25}$ , P. M. Haynes collection (pl. 2, fig. 2). Luxor.

Flint — opaque. Patina — dark red brown over most of the specimen — yellow on facets A, near broad end.  $10.5 \times 7 \times 3$  cm. Flaking — radial.

The general form is that of the *coup-de-poing*. The edges seem to show signs of use. The *arêtes* are much sharper on the less patinated facets near the broad end. None of the flakes show unmistakable evidence of human workmanship, though this seems to be probable for all of them. This specimen may, therefore, be a natural form, merely resembling an implement; it may have been such a form, picked up and retouched as an implement; it may have been an implement, and the retouching be due to natural causes; or it may be an implement of one age retouched in an age much later.

Fig. 120. Cat.  $\frac{B}{24}$ , P. M. Haynes collection (pl. 2, fig. 1). Luxor.

Flint — opaque. Patina — red brown.  $11 \times 6.5 \times 2$  cm. Flaking — radial.

It is roughly rectangular in shape. It is doubtful whether it is of human workmanship.

\* \* \*

In type, these implements resemble most those of the early Mousterian of Europe, with survivals from the Acheulean. There are, however, some reasons against correlating them with any of the periods of western Europe. Though the flaking most resembles that of the Mousterian, the very typical *pointes moustériennes* of that period are entirely lacking. Disc forms (fig. 19, 57, 58), and other forms (fig. 47) of a distinctly Acheulean appearance are present in the collection from the Eastern Desert, while the Luxor collection comprises many specimens of even a Chellean appearance (figs. 60–64, 80–83, etc.). Some specimens might be ascribed to the upper paleolithic (or even neolithic) period, but the smaller Magdalenian forms are entirely absent. We may still say, however, that they resemble Mousterian forms more than they do those of any other single European period.

But type alone is no safe criterion for the correlation of specimens from widely separated areas. It has been clearly demonstrated that similarity of form does not necessarily mean proximity in time. Village sites in America and elsewhere, which are less than two centuries old, produce implements identical in form with some of the oldest European specimens. Quarry refuse in America also often simulates the oldest finds in Europe.<sup>13</sup> To attribute the same age to specimens from widely separated areas like Egypt and France, one must therefore have more evidence than mere similarity of type.

To show that the stone ages of Egypt corresponds to those in France, one must prove first that the sequence of types was essentially the same, and secondly that some points in the two sequences correspond in point of time. The development must be virtually parallel, and there must be something to show that the development did not take place independently.

To establish that at certain times the cultures were even roughly contemporaneous, we must be able to show that the fossils associated with each are of the same period, or that they are connected by a continuous series of the same successions of culture stages through all the intervening area. In the case of Egypt and western Europe, neither of these things has been done. So little work has been done in Asia Minor and the Balkans on the one hand, and in the remainder of northern Africa on the other, that it is impossible

<sup>13</sup> W. H. Holmes, 'Modern quarry refuse and the palaeolithic theory' (Sci. vol. 20, no. 512, New York, 1892, p. 295–297).

to say with certainty that the same succession of cultures occurs continuously from western Europe to Egypt. Of the fossils, too little is known of the exact correlation of the fauna of North Africa and Europe in Pleistocene times to enable us to draw any conclusions regarding the correlation of cultures.<sup>14</sup>

Such available evidence as there is, it is true, seems to indicate nearly the same succession in North Africa as in western Europe. For example, near Bougie in Algeria, were found <sup>15</sup> pottery, neolithic polished celts, and modern fauna in the upper beds of a site, in the lower strata of which occurred a "chelléo-moustiérien" industry. Again, a station exists near Constantine, Algeria, in the upper layers of which were found Roman remains.<sup>16</sup> Below these was a neolithic industry, and in the lowest levels a culture belonging in type to the lower paleolithic.

At Gafsa, in Tunis, has been found in the lowest strata <sup>17</sup> a Chellean industry, and above it a Moustierian, while at a still higher level was found a mixture of several cultures, including the neolithic.

As we have implements of Acheulean and Moustierian types from the Eastern Desert, and from Luxor, we may tentatively assume that they are probably of the same age as similar forms from western Europe; but until a stratified site yielding flints such as those just described has been found, or until such flints have been discovered in satisfactory association with fossil remains, all conjectures as to their chronological position must be regarded as pure hypotheses. There is no doubt that they are of very ancient origin, and their frequent occurrence in regions now waterless points to their having been made at a time when the physiography of the Nile valley was of a character very different from that of the modern Egypt. The distribution of the specimens, which in the light of Mr. Murray's discoveries <sup>18</sup> appears to be appreciably wider than was heretofore supposed, adds to the interest and importance of the whole question, and suggests the possibility that many other stations, as yet



Fig. A

<sup>14</sup> For discussions of the Pleistocene and Recent geology of the Nile valley in relation to man, cf. M. Blanckenhorn, 'Die Geschichte des Nil-Stroms in der Tertiär- und Quartärperiode, sowie des palaeolithischen Menschen in Agypten' (Zeit. d. G. f. Erdkunde, Berlin, 1902, p. 694-722, 753-762).

<sup>15</sup> A. Debruge, 'La station quaternaire Ali-Bacha' (Soc. Arch. d. Constantine, vol. 40, 1906, p. 119-133). [A. Debruge], 'La grotte sépulcrale quaternaire "Ali-Bacha"' (Soc. Arch. d. Constantine, vol. 40, 1906, p. 134-157).

<sup>16</sup> [M. Debruge], 'La grotte des ours' (Soc. Arch. d. Constantine, vol. 42, 1908, p. 117-148).

<sup>17</sup> Couillaut, 'Note sur les stations préhistoriques de Gafsa (Tunisie)' (L'Anthropologie, vol. 5, Paris, 1894, p. 530-541). G. Schweinfurth, 'Steinzeitliche Forschungen in Südtunesien' (Zeit. f. Ethnol., vol. 39, Berlin, 1907, p. 137-181).

<sup>18</sup> To the sites already mentioned above, and located on the sketch map, one more may be added. In Febr. 1908, H. T. Ferrar collected in the alluvium at the foot of Jebel Warak in the Eastern Desert, at his triangulation point 39, the flint shown in fig. A. It is now in the Cairo Geological Museum (specimen 11144).

unknown, await the archaeological explorer in the Eastern Desert. In this connection I may venture to suggest a possibility which, however remote, is of too great importance to be overlooked by future investigators. W. F. Hume, of the Geological Survey of Egypt, informed a member of the staff of the Peabody Museum that in one instance a paleolithic implement had been found near the entrance of a cave or rock shelter in the Eastern Desert. It is therefore barely possible that the evidence necessary satisfactorily to date the flints discussed in this paper may be found by cave excavation between the Nile and the Red Sea — excavations which, if successful, could not fail enormously to advance our knowledge of early culture, and perhaps of early man himself.

#### ADDENDA

Since the above article went to press, several additional paleolithic implements have come under my observation. The specimens in question were collected by R. de Rustafjaell, from whom they were obtained by a member of the staff of the Peabody Museum. Exact information as to the locality in which they were found is lacking, but it is almost certain that they came from the immediate vicinity of Thebes.

Two of these specimens tend to confirm a hypothesis suggested above. In discussing figs. 78 and 79, I suggested that the implement there shown might be a local type restricted to the Thebaïd. In the footnote (no. 11), I referred to 16 other specimens of the same type, all of which came from near Thebes. Five others of the same form, all from the edge of the desert within fifteen miles of Thebes, have been figured by de Rustafjaell.<sup>19</sup> This makes a total of 24 of these implements known to have come from the Thebaïd. As I have been unable to obtain evidence of the existence of this type elsewhere in Egypt or northern Africa, I incline to call the type local.<sup>20</sup>

These implements are characterized by a straight, or but slightly curved, base which served as a handle; two nearly straight edges at right angles to the base or, more

<sup>19</sup> R. de Rustafjaell, *Catalogue of the remaining part of the valuable collection of Egyptian antiquities*; Sotheby, Wilkinson, and Hodge, London, 1913, pl. 1. Idem, *Palaeolithic vessels of Egypt*, MacMillan and Co., London, 1907, pl. 3, fig. 21. Idem, 'Résumé sommaire de l'âge de la pierre en Egypte' (C. R. Cong. Préh. de France, 5th sess., Beauvais; Paris, 1910, p. 297-322) pl. 3, figs. 1 and 6. I am aware that de Rustafjaell's good faith is questionable, but I see no reason to doubt either the authenticity of these specimens, or the statement as to their place of origin. In each of the three publications referred to, de Rustafjaell seems to imply that this type of implement is very common around Thebes.

<sup>20</sup> I have recently found in the Peabody Museum several photographs of Egyptian flint implements. There is no information with them as to the present location of the specimens, but their place of origin is fully indicated. They come from the hills west of Thebes and Ermant, at elevations of from 160 to 240 meters above the Nile level. Seven of these specimens, from Gabanet-el-Girūd are of special interest, since they are of the "spokeshave" form described above as being probably a local type. In the Metropolitan Museum of Art in New York, there are 139 Egyptian paleoliths from Deir el-Bahri. No less than 34 of these are of the "spokeshave" form. This makes a total of 65 of this type now recorded, and all of them are from the Thebaïd.



frequently, diverging slightly from each other (as is the case with the specimens figured in this article); and a long concave edge, retouched for scraping, as a fourth side of the roughly rectangular whole. These hollow scrapers may well be called "spokeshaves" from their resemblance to the modern tool. The two faces are usually nearly flat and parallel to each other. The concave scraping edge has a long bevel, which is often a portion of a single reversed cone of percussion. This edge is carefully retouched, usually on the beveled face, though sometimes on the opposite one. The other three edges are usually flaked off at approximately right angles to the two faces. Figs. 78, 79, 125, and 126 show examples of this type of implement.

Fig. 125. Andover Museum. Rustafjaell collection. Luxor (?)

Flint — dark — opaque. Patina — reddish brown. Incrustation — calcareous in spots.  $9 \times 9 \times 2$  cm. Face shown in illustration — mainly an old fracture surface — radial flaking with careful retouching on the concave edge. Other face — two sets of longitudinal flakings, crossing each other at right angles — bevel to the concave edge, a portion of a single reversed cone of percussion.

The two faces, except for the bevel to the concave edge, are nearly flat and parallel to each other. Three of the edges are flaked at right angles to the two faces. These show little secondary chipping due to use, and no retouching by design, except at a small shallow notch near one corner. The concave edge has a long bevel from one face, and a steep bevel, carefully retouched on the other face.

Fig. 126. Cat. no.  $\frac{B}{1473}$ , P. M. Rustafjaell collection. Luxor (?)

Flint — dark — opaque. Patina — reddish brown. Incrustation — calcareous in spots.  $12 \times 10 \times 5$  cm. Face shown in figure — mainly a single reversed cone of percussion — a long bevel on concave edge formed by a second reversed cone of percussion. Other face — several irregularly arranged facets.

The base and the two edges adjoining it have been flaked at right angles to the two nearly flat parallel faces. The two sides diverge more than is usual in this type of specimen, and the corners between them and the base are more rounded. The fourth edge is concave, and has a long bevel from one face. Careful retouching of the edges is lacking in this specimen, and secondary chipping from use occurs only on the concave edge, and there only scantily. The great size of the implement, its lack of a convenient single hand grasp, and the great length of the edges worked at right angles to the two faces suggest that this specimen was used in two hands rather than in one.

There are two flint discs among the new specimens. These resemble more closely the other Theban discs shown in figs. 80 to 83 than they do those of the Eastern Desert shown in figs. 19, 57, and 58. The former are grossly, but carefully chipped, while the

latter were made by the removal of many more and much smaller flakes. In the Eastern Desert specimens, the edges and surfaces are smoother and straighter, and there is a certain symmetry of form entirely lacking in the Theban implements.<sup>21</sup>

One of these discs, which I have not figured, measures  $12 \times 11 \times 2$  cm. It is composed of very imperfect chert, is roughly radially flaked, and bears an incrustation (?) of dark brown color. The flaking has been much influenced by incipient fracture planes. On it are a few facets which do not bear the characteristic incrustation. These may represent a later stage of chipping (in which case there was absolutely no change in the form of the implement) or, more probably, they are due to a recent accident, and are consequently without significance. The description of the other disc follows.

Fig. 127. Andover Museum. Rustafjaell collection. Luxor (?)

Flint — dark — opaque. Patina — reddish brown. Incrustation — calcareous in spots.  $9.5 \times 9 \times 2.5$  cm. Face shown in figure — mainly one large reversed cone of percussion — radial flaking along one edge forming a slight bevel. Other face — radially flaked — large portions of original cortex retained in center.

This implement resembles very closely those shown in figs. 80 to 83. Its chief point of difference is the slight bevel which occurs on one edge of the face shown in the figure.

I have had occasion to note the prevalence of Acheulean forms in the collection from the Eastern Desert, and of types even Chellean from Luxor. Rough examples of *coup-de-poings* are shown in figs. 59, 60, 63, 64, and 119. The smoothly ovoid form characteristic of the Acheulean of Europe is, however, absent from these collections.<sup>22</sup> In the Rustafjaell collection, there is a good example of the type.

Fig. 128. Andover Museum. Rustafjaell collection. Luxor (?)

Flint — light — translucent. Patina — face shown in figure, red brown — other face, yellow brown. Incrustations — calcareous in spots — mottled especially near the broad end on face shown in figure, the mottling being black.  $12 \times 9 \times 3$  cm. Face shown in figure — radially flaked. Other face — mainly a portion of the original cortex — radial flaking along two edges.

<sup>21</sup> This contrast between grossly chipped, rather heavy implements and more finely chipped symmetrical forms seems to be the main point of difference between the flints of Thebes and those of the Eastern Desert. This difference corresponds roughly to the distinction between the Chellean and Acheulean implements of western Europe. Cf. H. F. Osborn, *Men of the old stone age*, New York, 1916, p. 113; E. A. Parkyn, *Prehistoric art*, London, 1915, p. 8; W. J. Sollas, *Ancient hunters*, London, 1915, p. 150; J. Déchelette, *op. cit.*, vol. 1, p. 81. The heavier Theban forms seem to have no disadvantages over the finer made Eastern Desert type, while they certainly possess marked advantages as implements. They were certainly more easily made — a point which would have had great weight with men who often left unchipped large portions of the original nodular surfaces merely because it was useless to remove them. Perhaps symmetry of form and neatness of finish appealed to some nascent aesthetic instinct of the primitive maker in the Eastern Desert.

<sup>22</sup> Cf. H. F. Osborn, *op. cit.*, p. 113; Sollas, *op. cit.*, p. 151. C. T. Currelly, *op. cit.*, figures no good examples of this type from the Cairo Museum collections.

The specimen is a typical ovoid *coup-de-poing*. The edges are somewhat wavy. The workmanship is not nearly so fine as that of the discs from the Eastern Desert (figs. 19, 57, 58).

I have had occasion before to mention the frequency of the retention of old nodular surfaces in both collections, which I have described in this article. To a certain extent, this is a feature, in western Europe, which distinguishes the Chellean from the Acheulean.<sup>23</sup> When, however, the surface of the implement is mostly cortex, and but a few flakes have been removed in forming it, in type it belongs to the pre-Chellean or Strepyan industry of western Europe.<sup>24</sup> This is especially true when the implement has but a few flakes removed so as to form the rough "dagger" (*poignard*) type, as is the case of one of the Rustafjaell specimens.

Fig. 129. Cat. no.  $\frac{B}{1474}$ , P. M. Rustafjaell collection. Luxor (?)

Flint — light — translucent. Patina — red brown. Incrustation — calcareous in spots.  $17 \times 7 \times 6$  cm. Flaking — three flakes have been removed from one end — much of the original cortex is retained.

One end has had three flakes removed so as to form a rough point. The *arêtes* between these facets show some secondary chipping due to use. The implement was made from an elongated nodule. The portion of the nodular surface retained seems to have served as a hand hold.

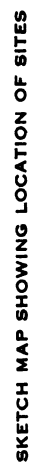
Fig. 130. Andover Museum. Rustafjaell collection. Luxor (?)

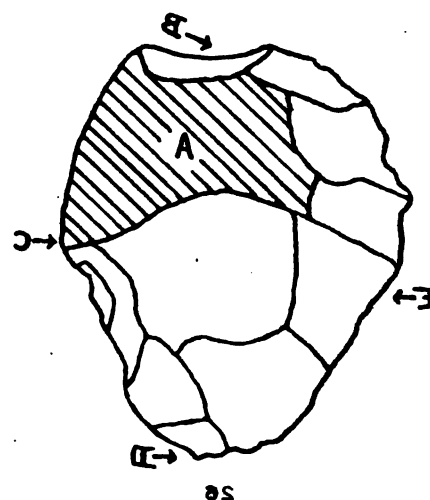
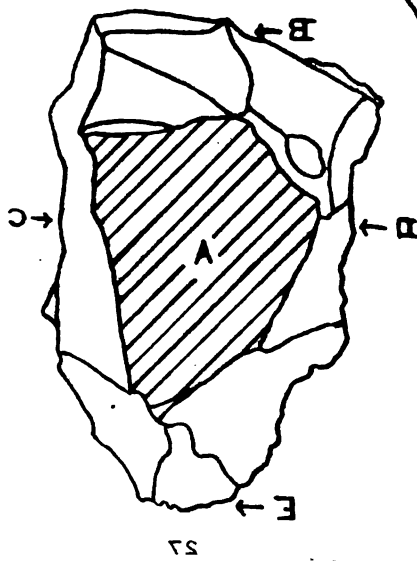
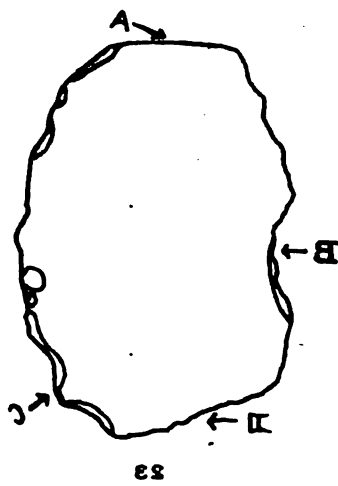
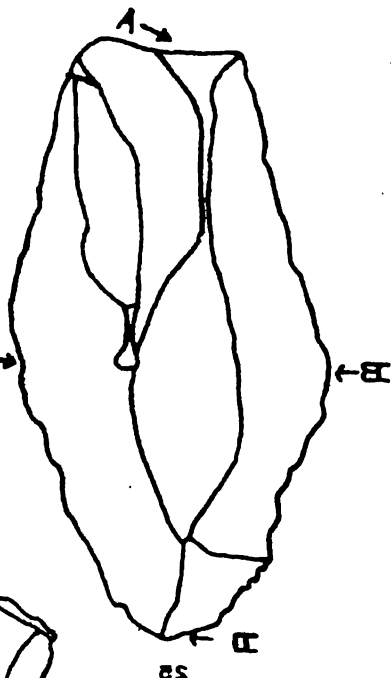
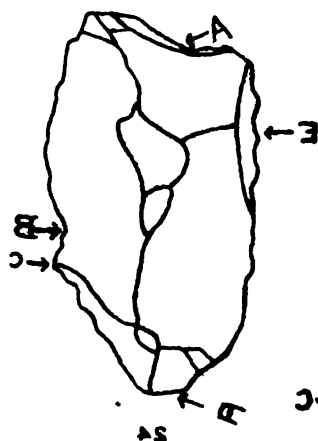
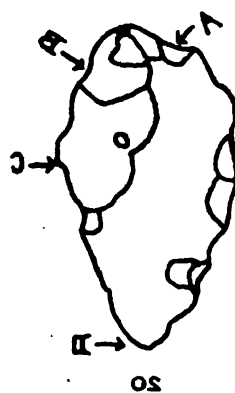
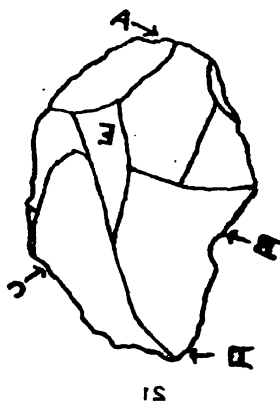
Flint — light — translucent. Patina — reddish brown — dendritic in spots. Incrustation — calcareous in spots.  $20 \times 8 \times 5$  cm. Flaking — roughly radial on both faces — portion of original cortex retained at one end.

This resembles the rougher pointed Chellean implements of Europe. The nodular surface at one end seems to have been retained as a hand hold.

<sup>23</sup> G. and A. de Mortillet, loc. cit.

<sup>24</sup> Sollas, op. cit., p. 139; Osborn, op. cit., p. 128.







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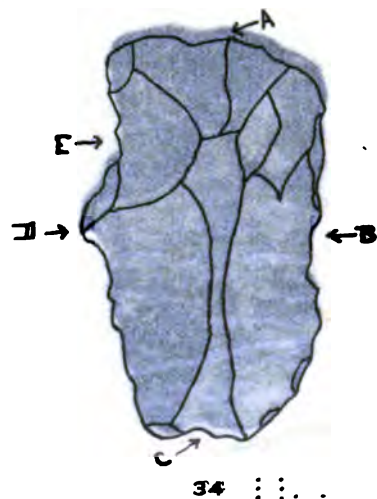
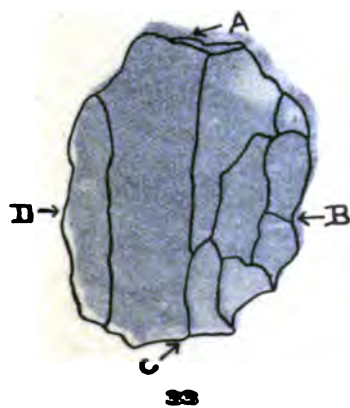
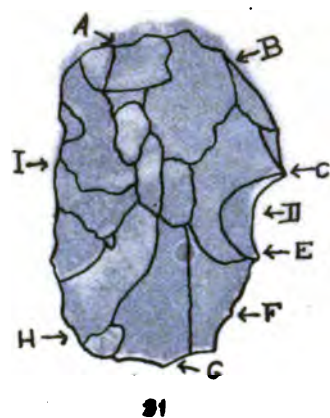
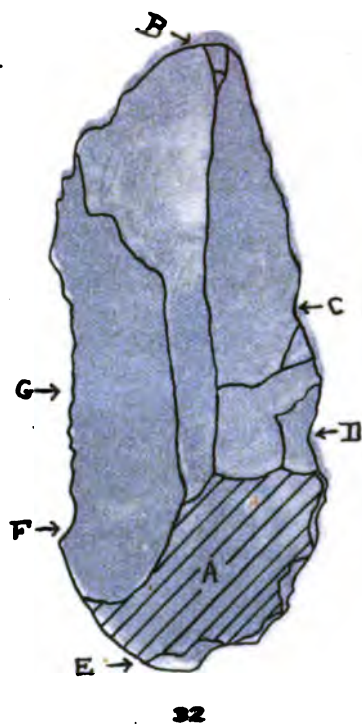
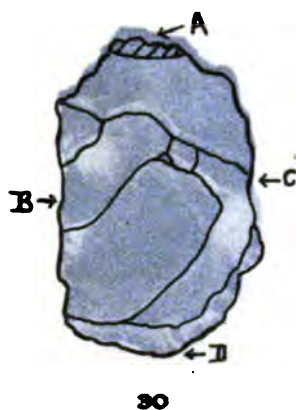
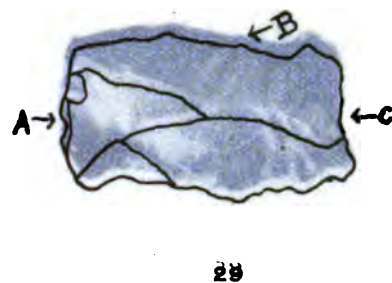
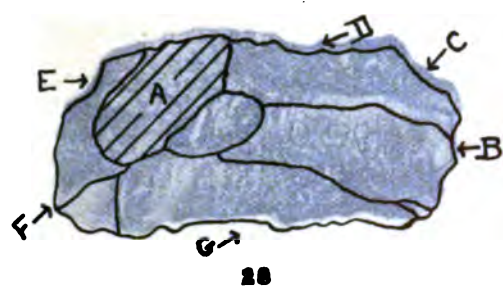
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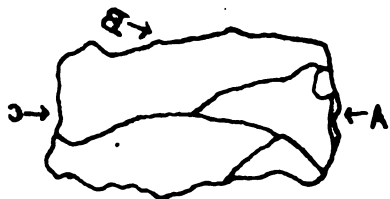
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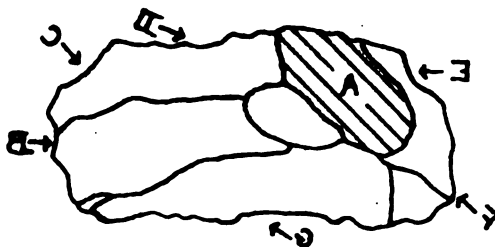
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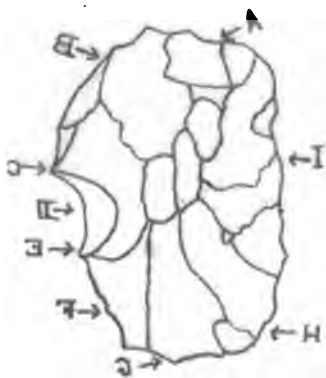




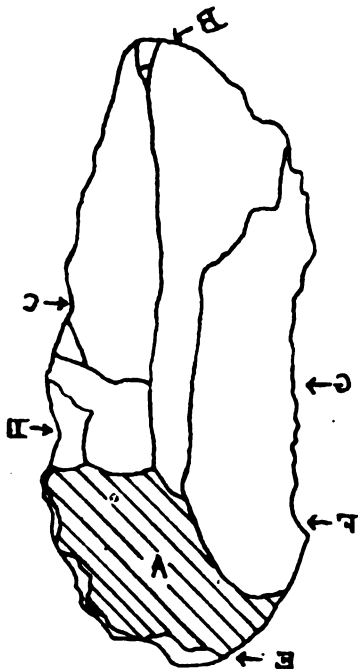
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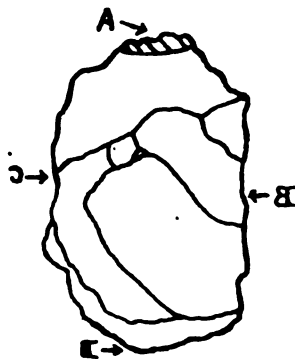
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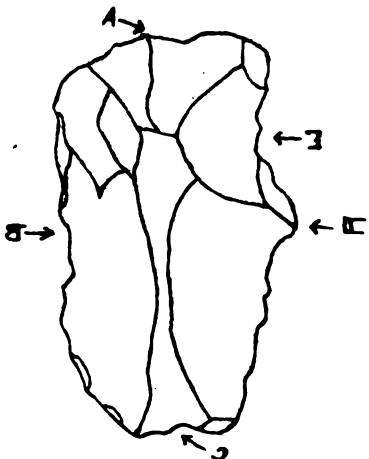
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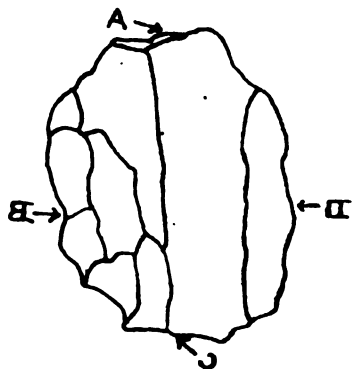
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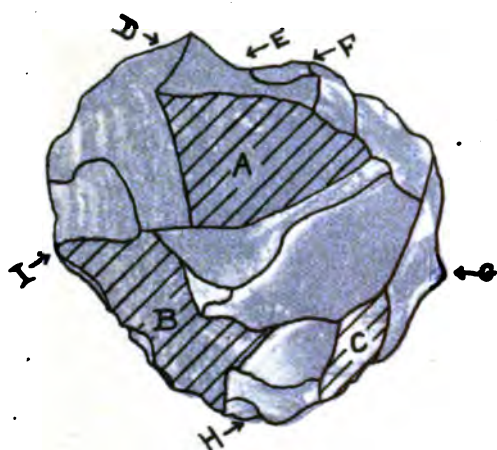
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COLLECTION FROM RABAH

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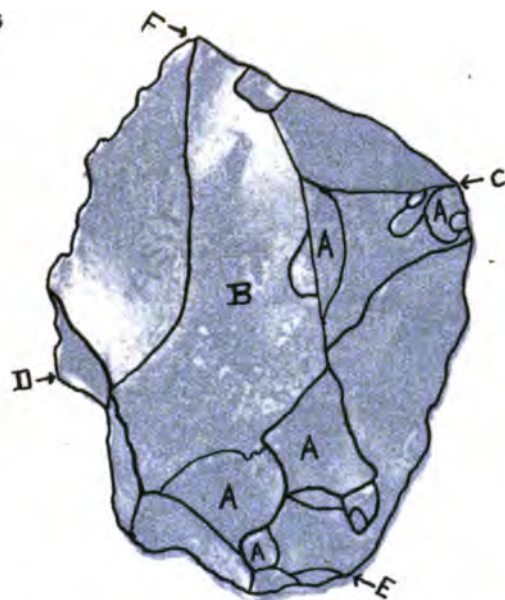
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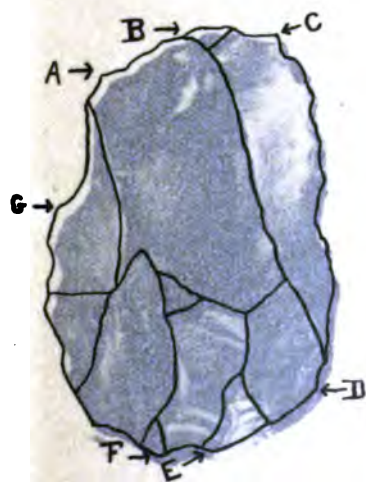
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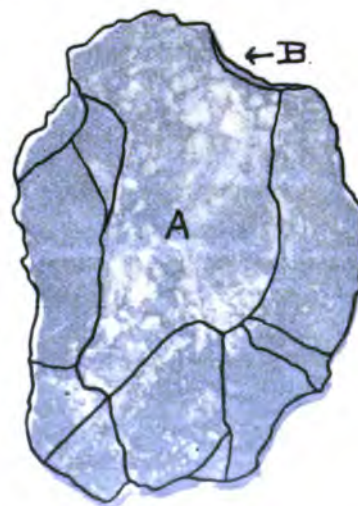
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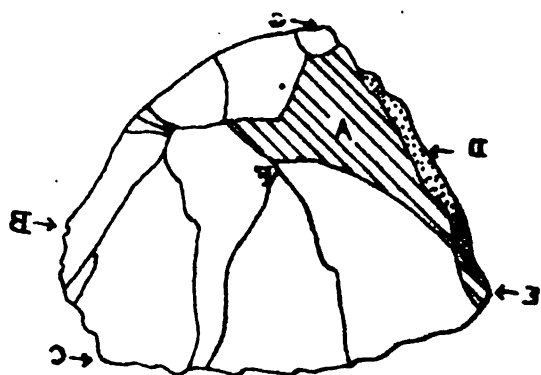


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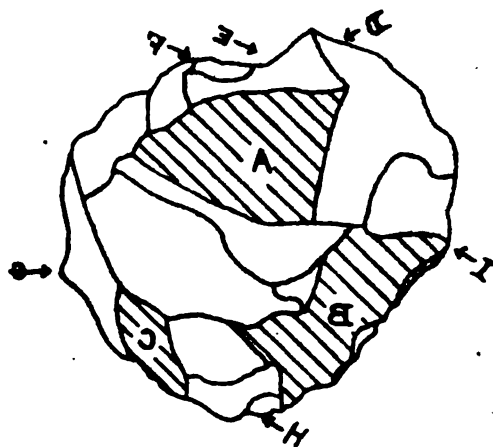


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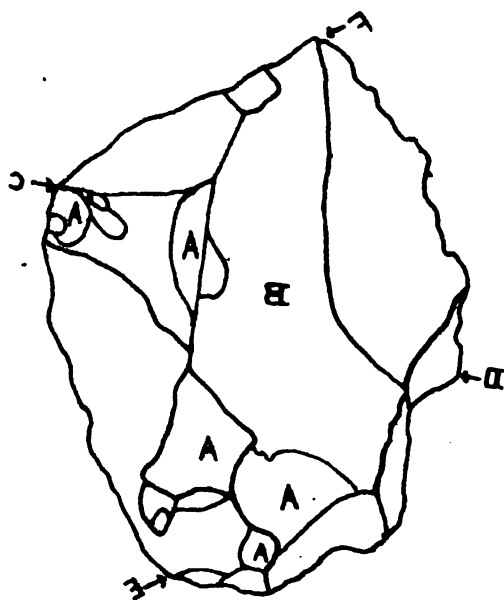




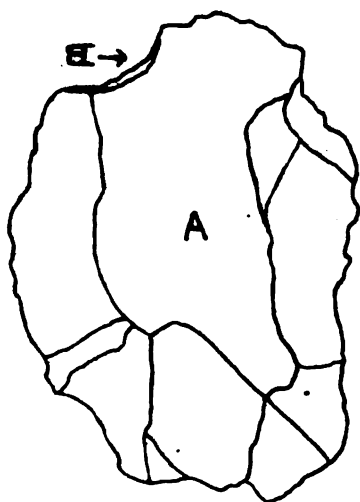
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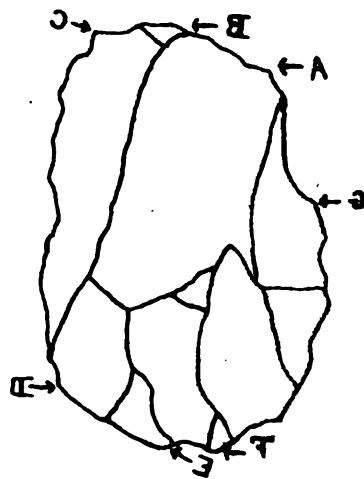
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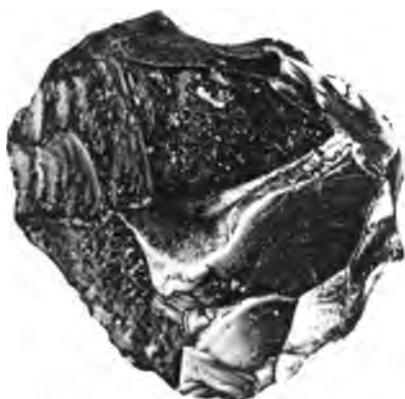
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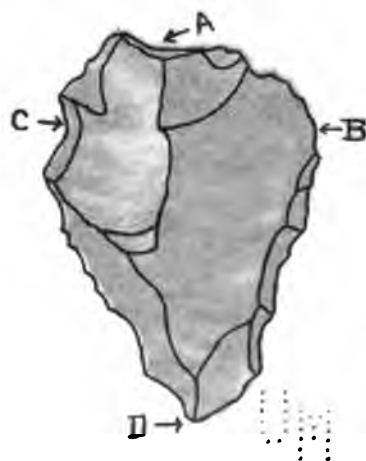
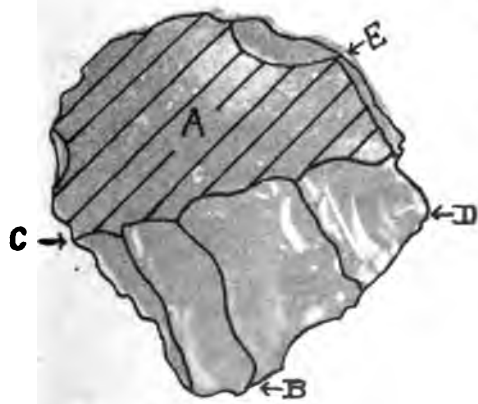
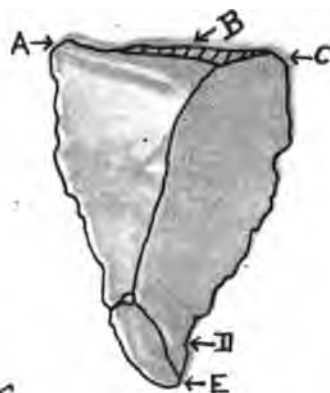
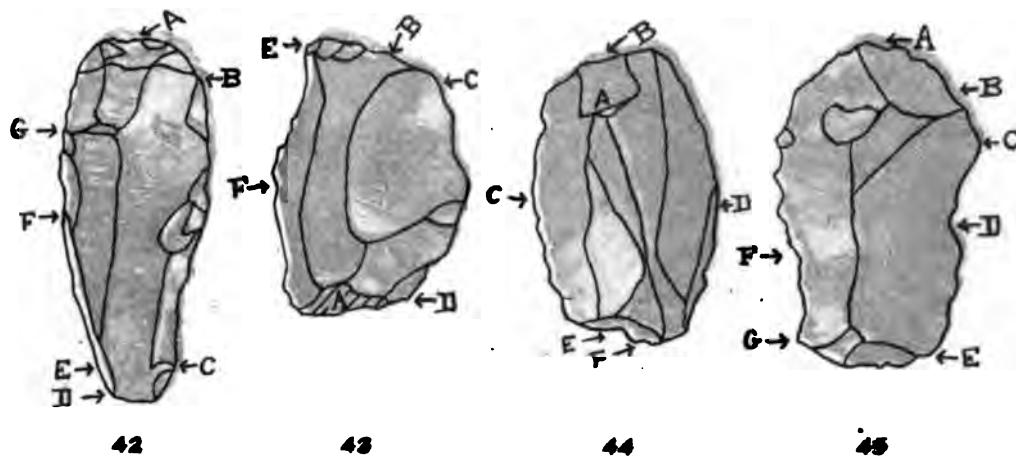
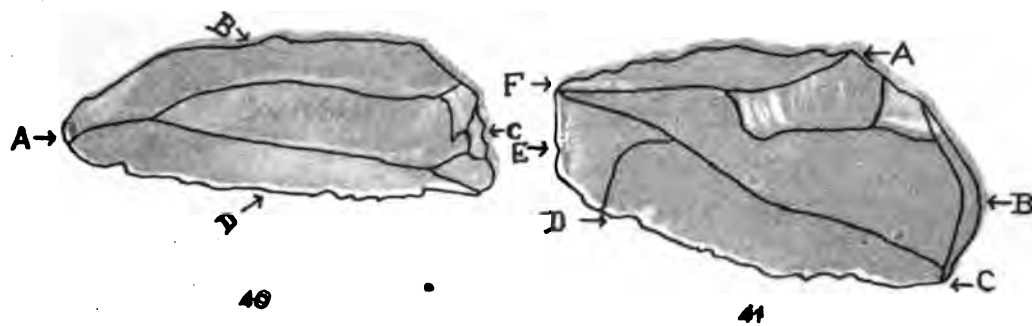
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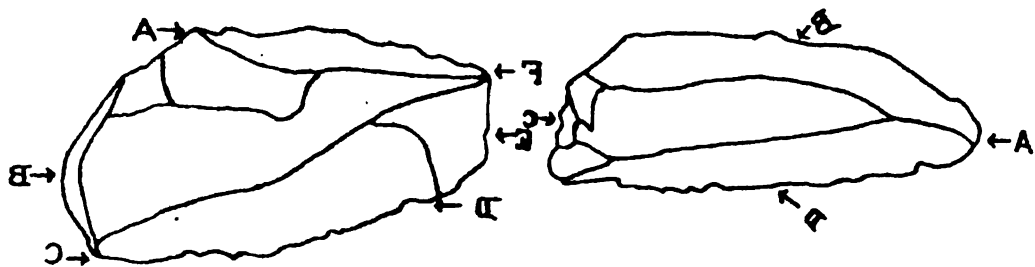
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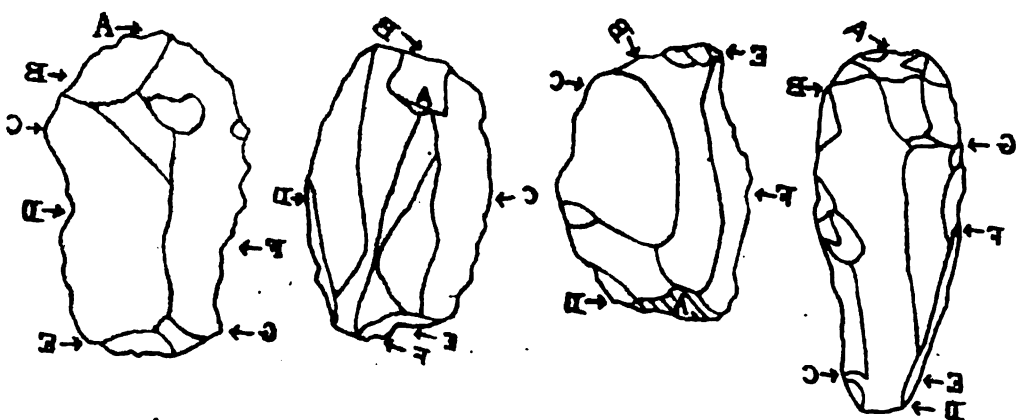






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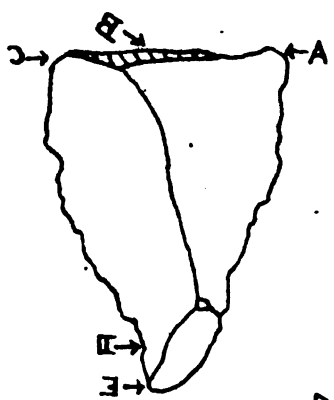


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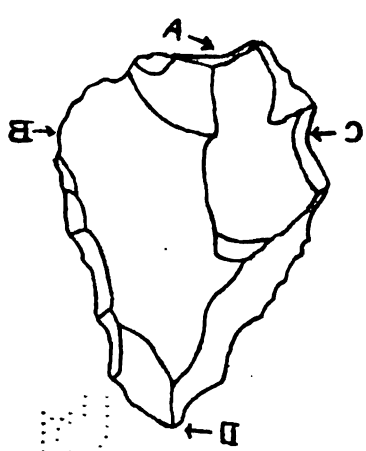
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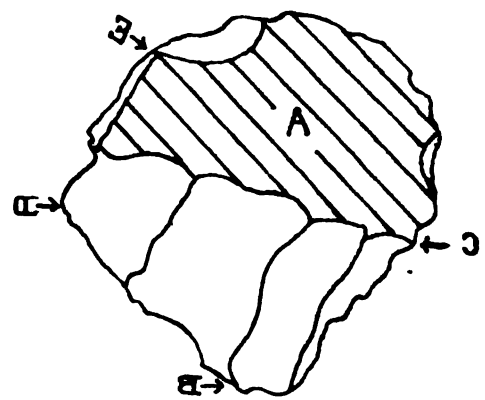
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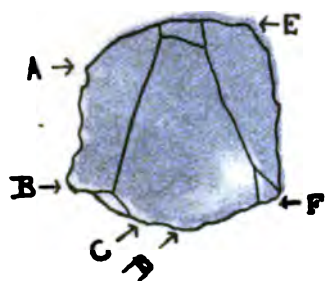
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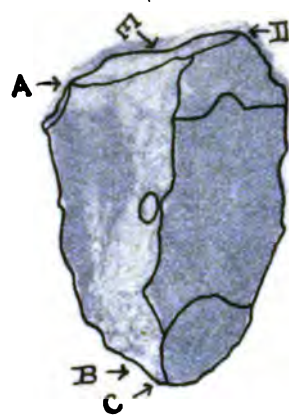
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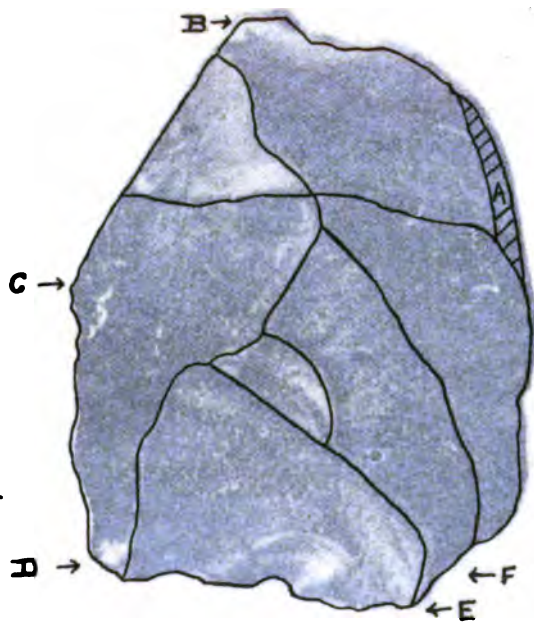
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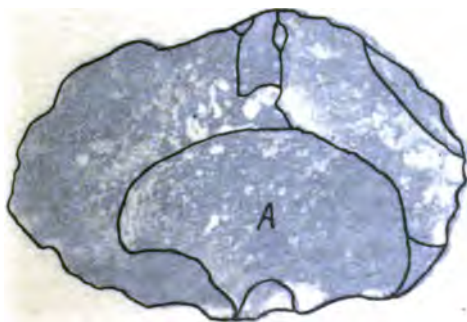
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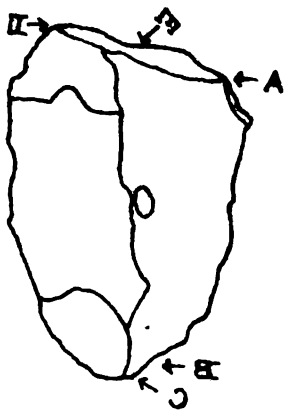
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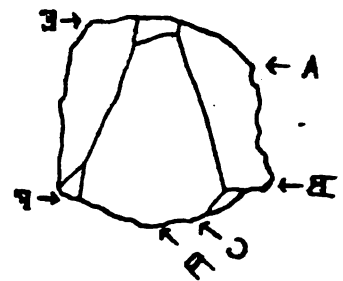
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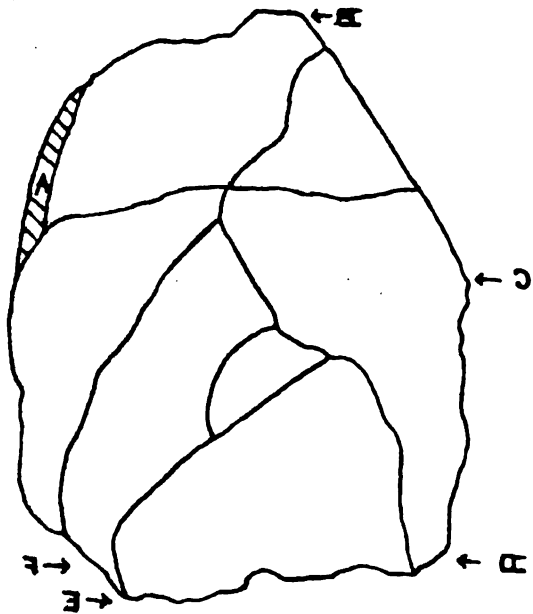
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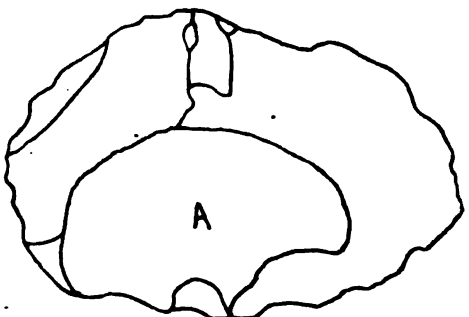
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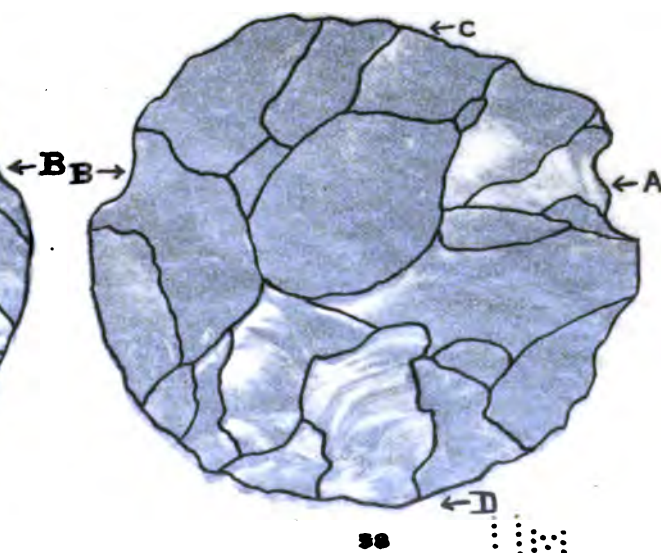
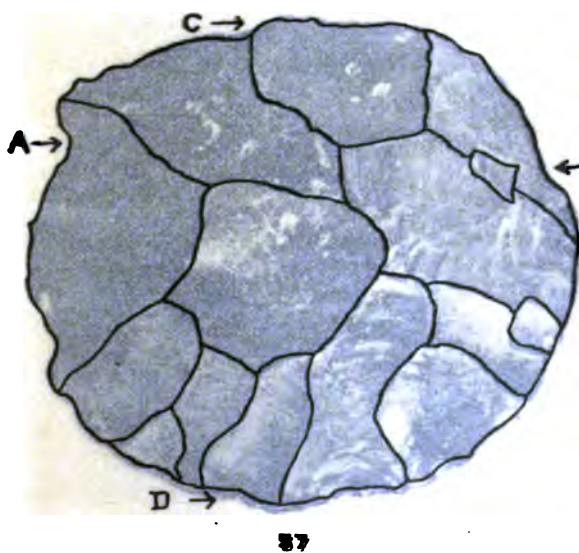
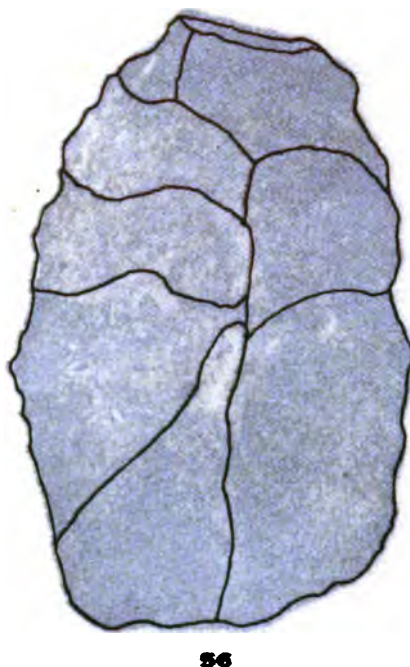
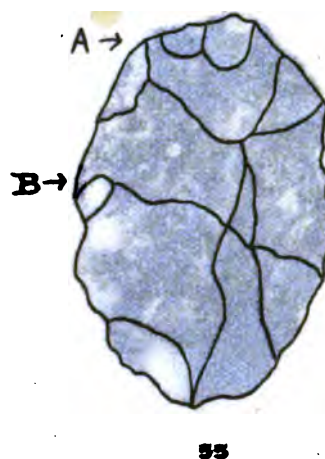
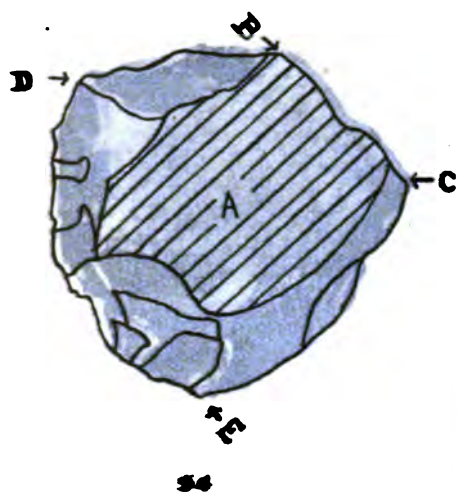


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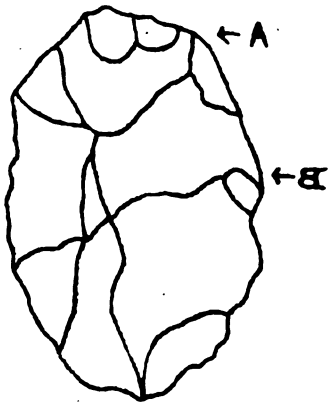


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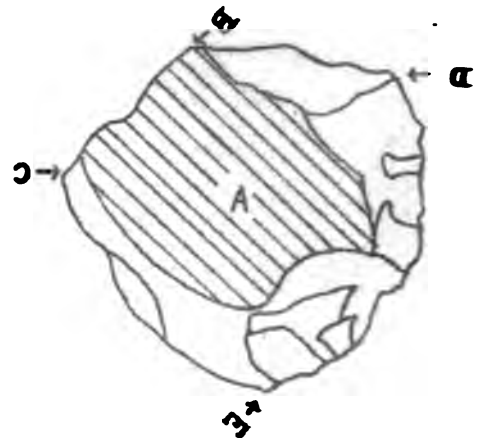
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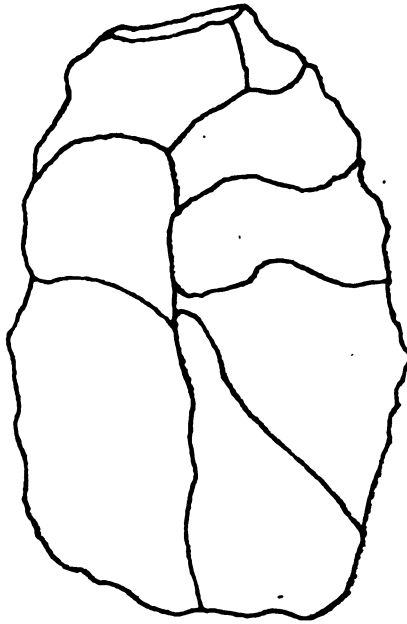




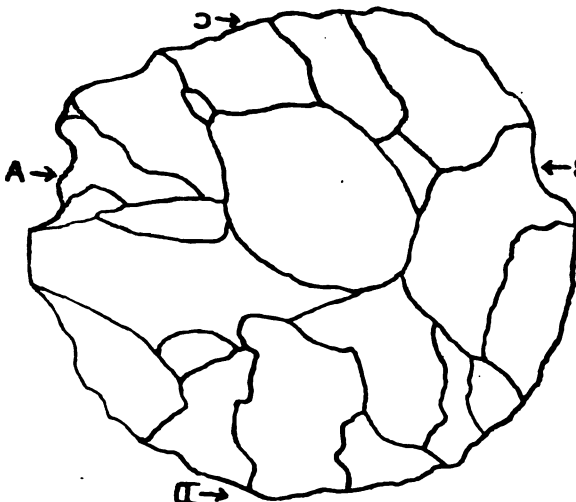
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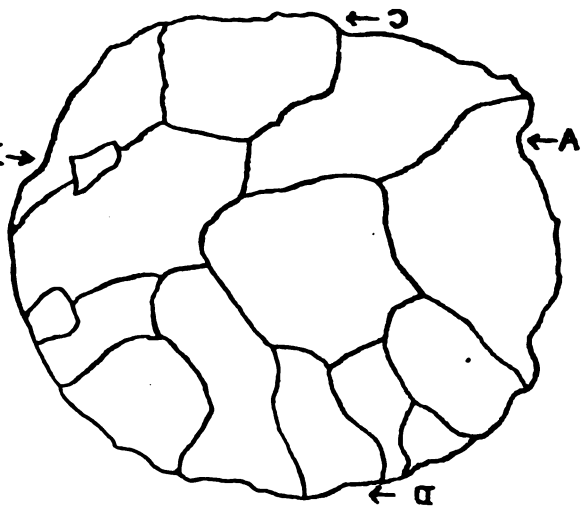
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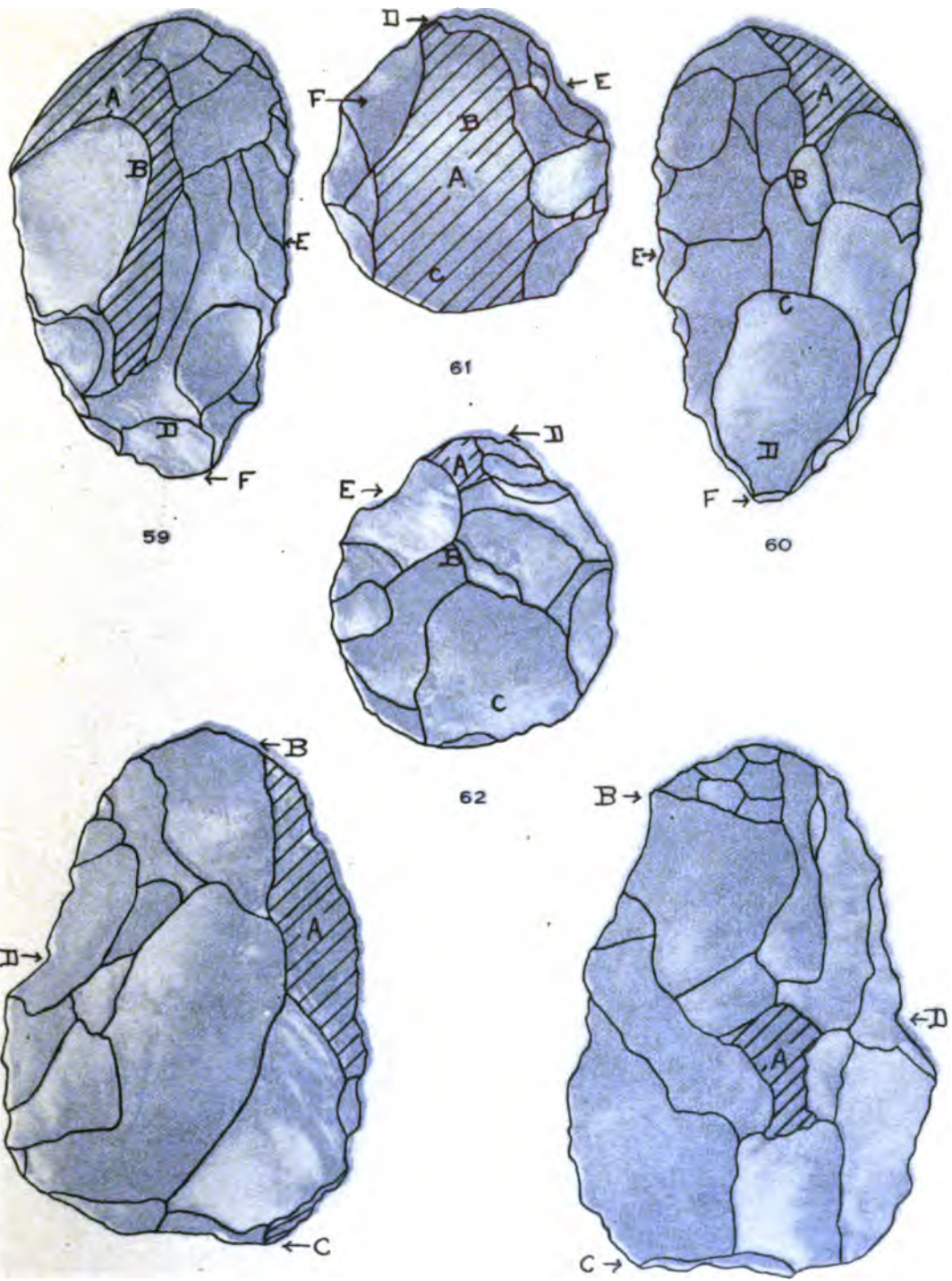
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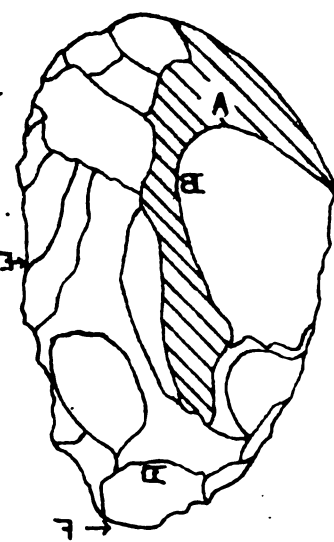


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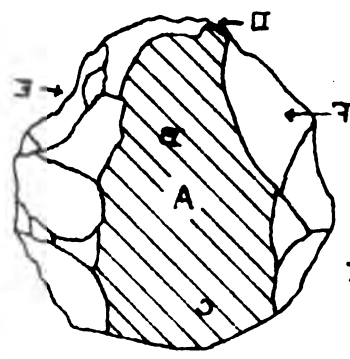


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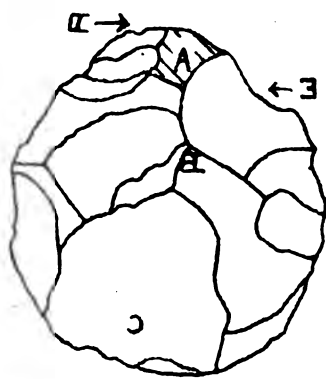
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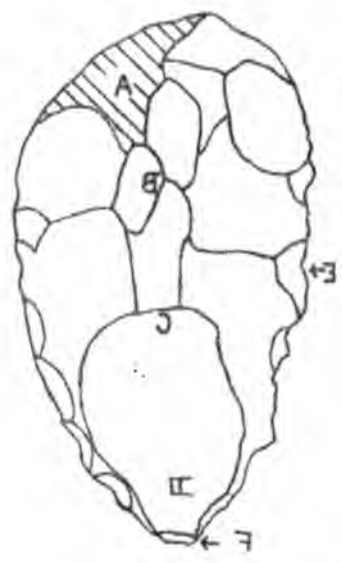
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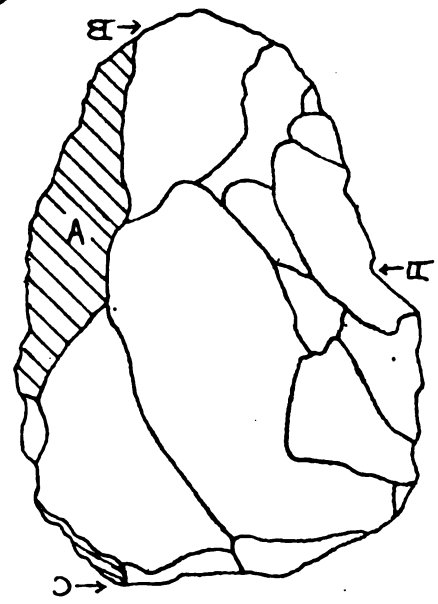
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PALEOLITHS OF LUXOR

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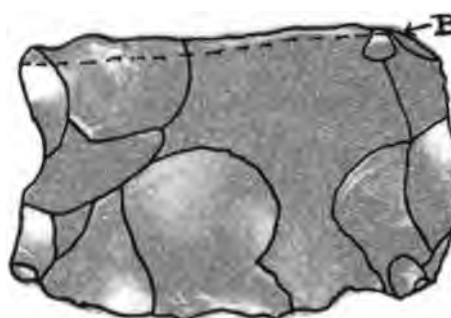
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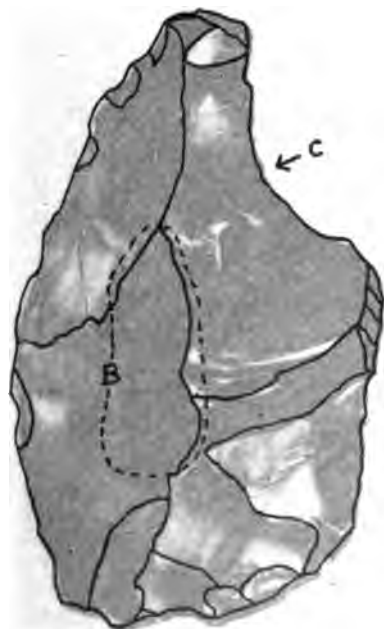
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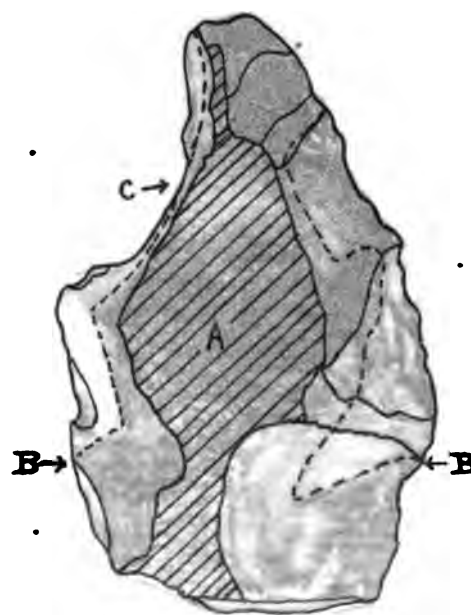
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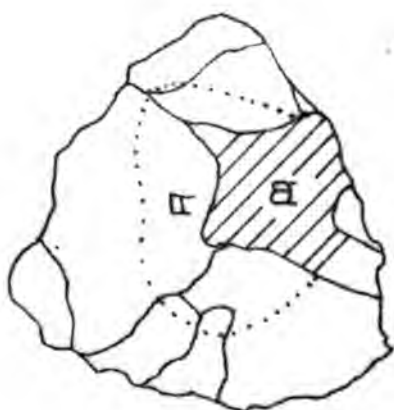


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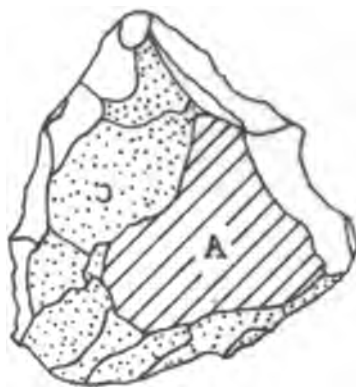


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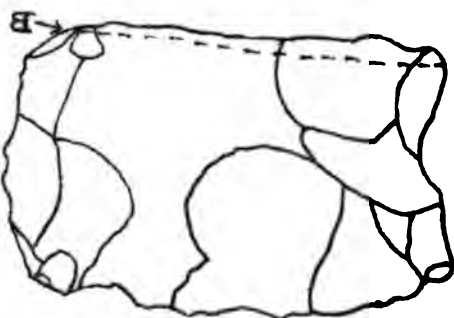




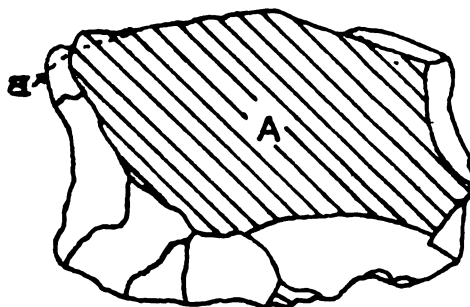
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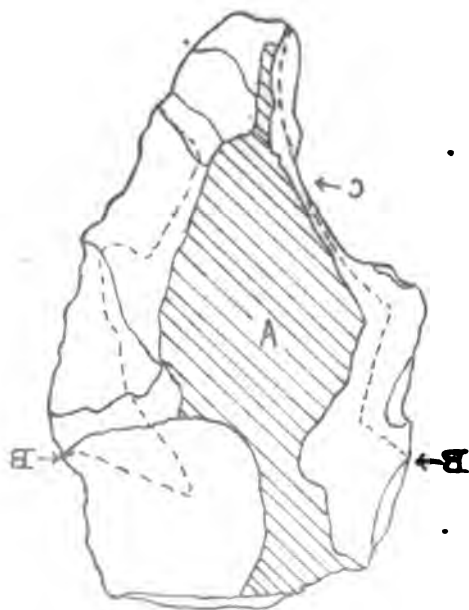
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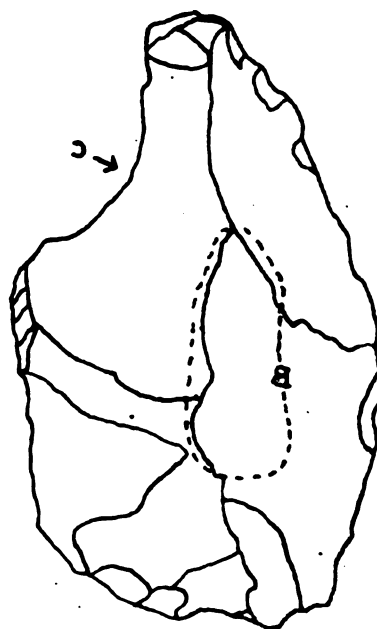
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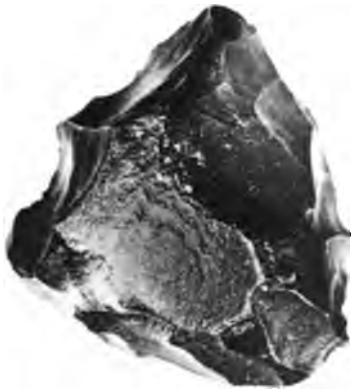
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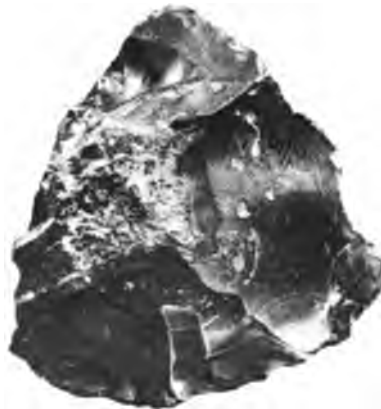
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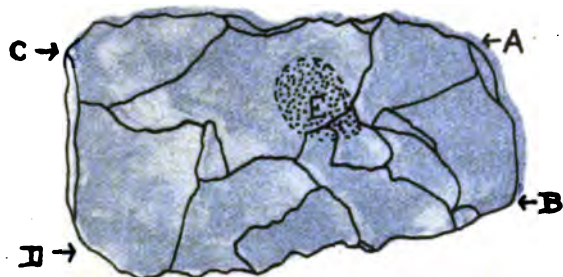
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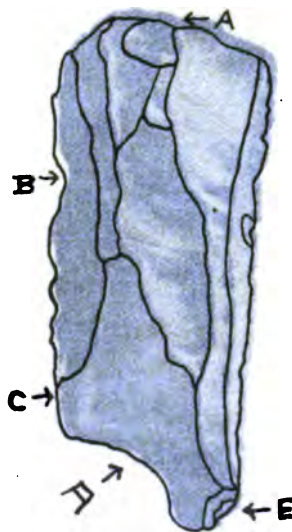
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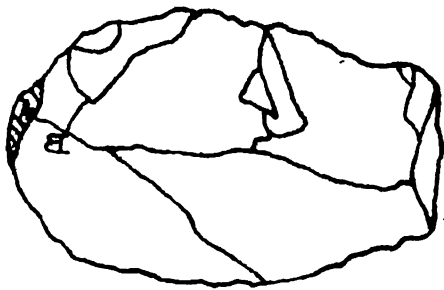
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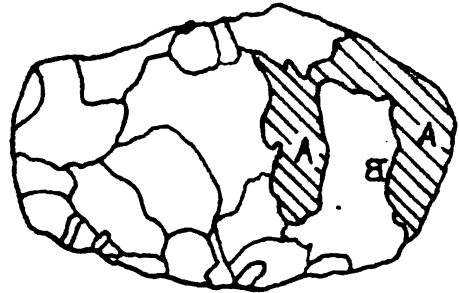
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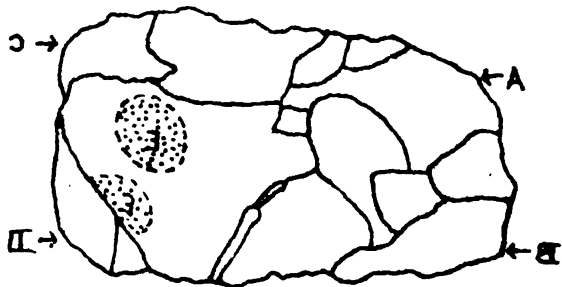
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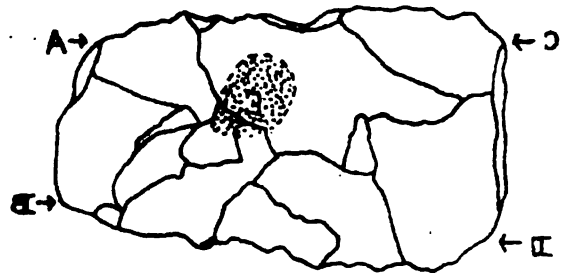
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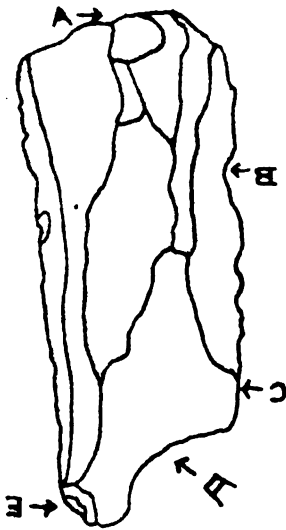
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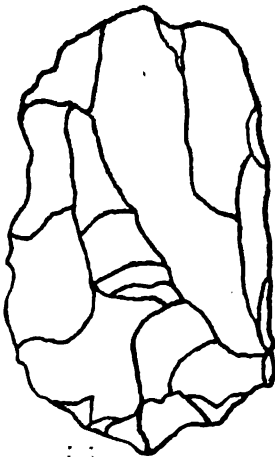
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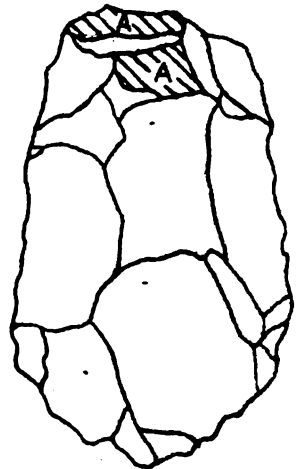
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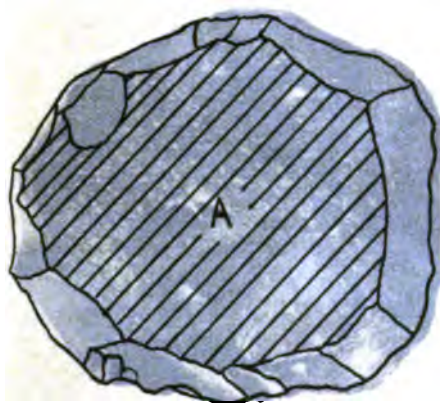




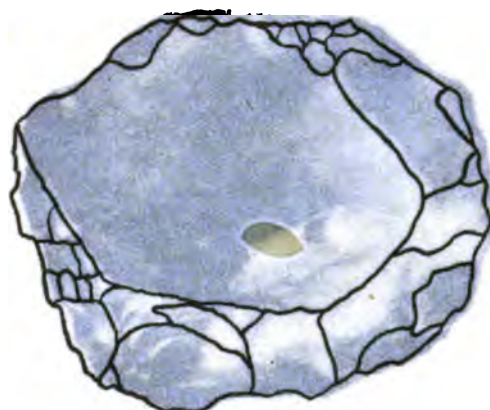
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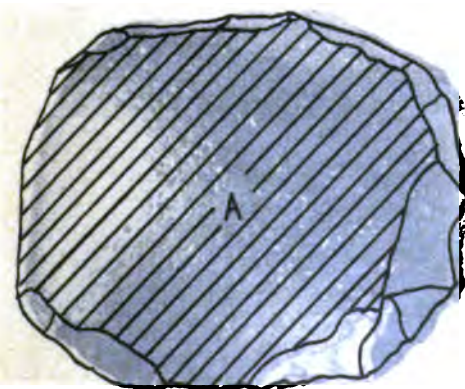
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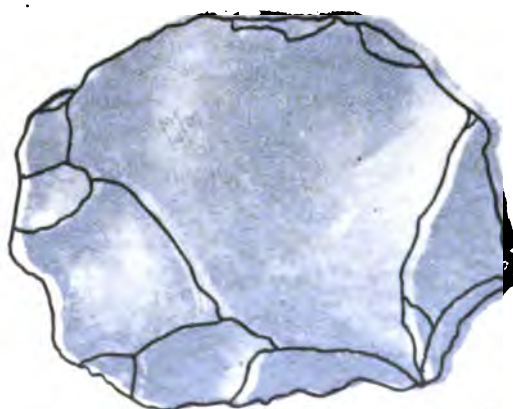
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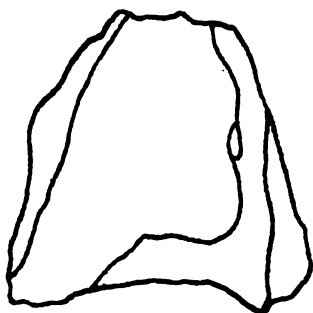


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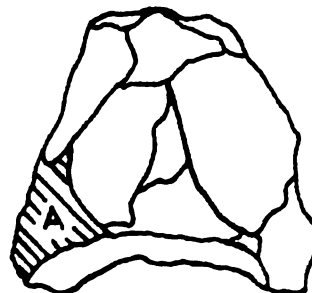


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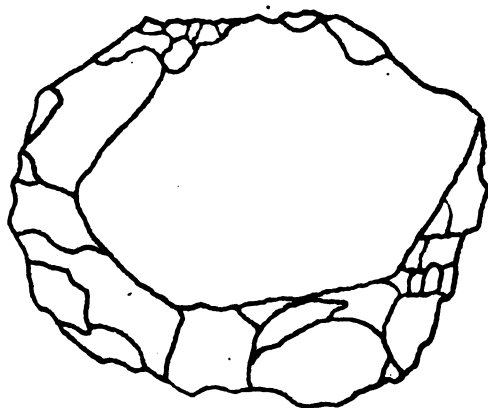




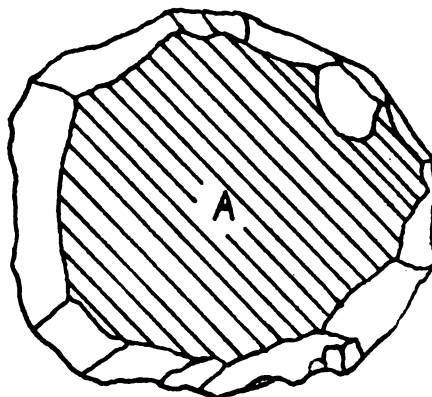
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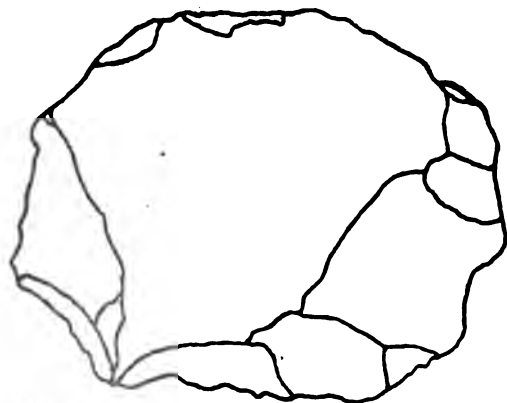
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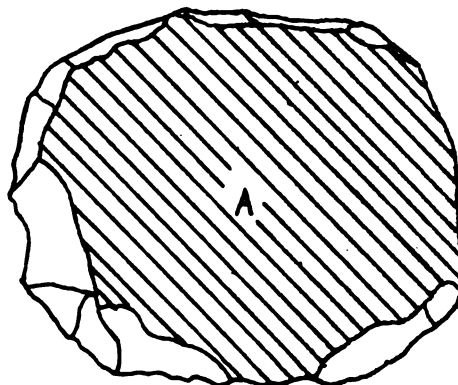
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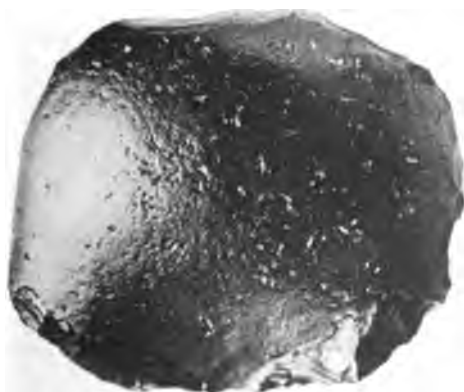
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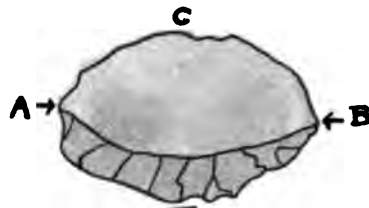
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STERNS  
PLATE XII  
PALEOLITHS OF LUXOR

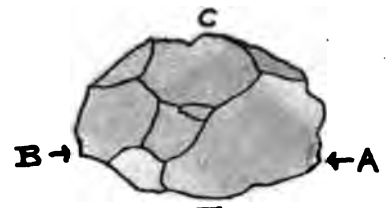
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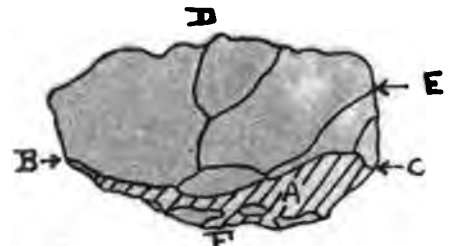
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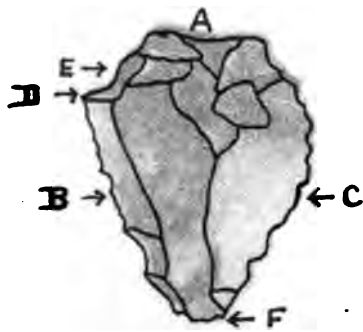
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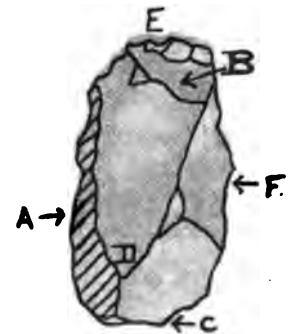
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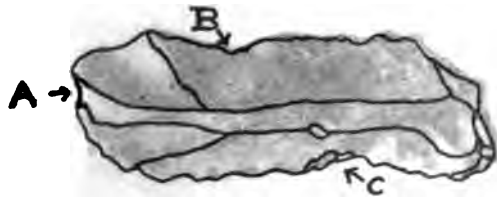
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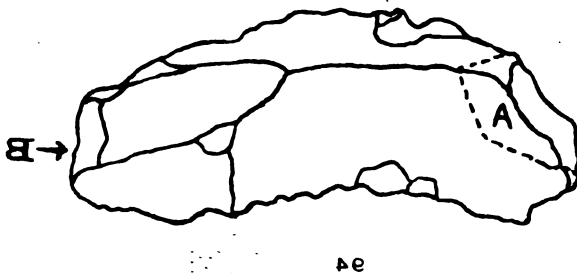
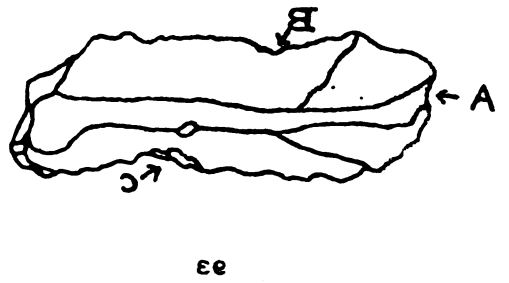
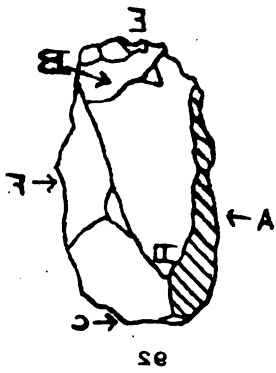
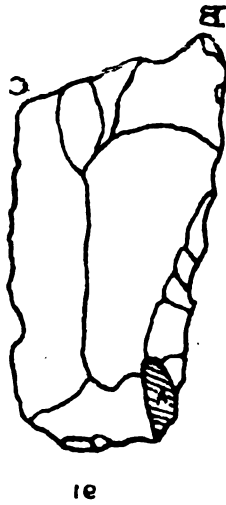
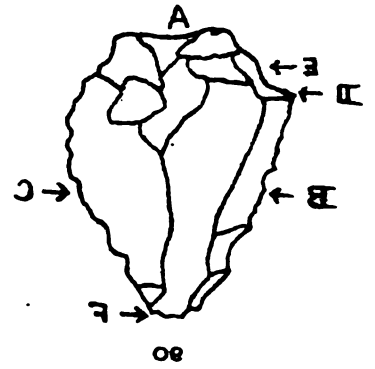
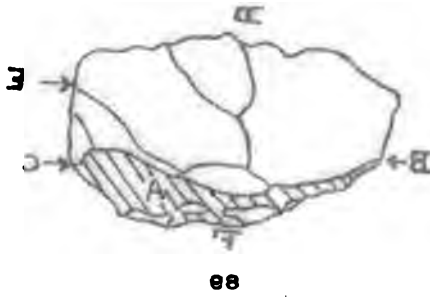
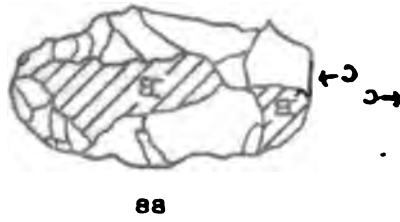
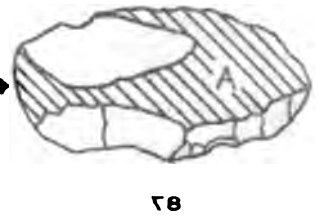
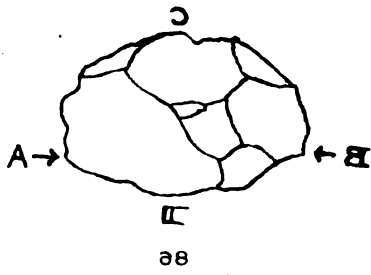
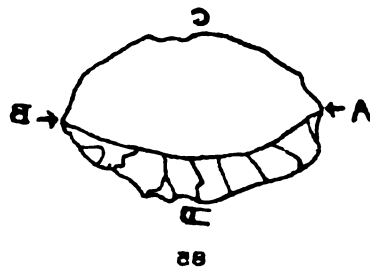
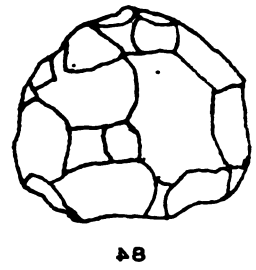


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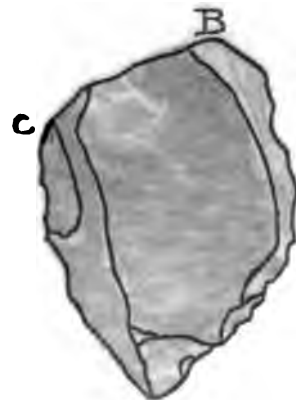
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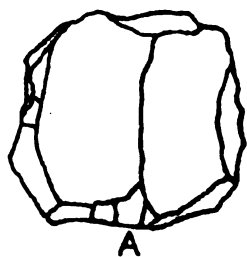


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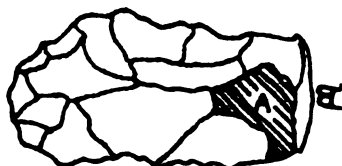
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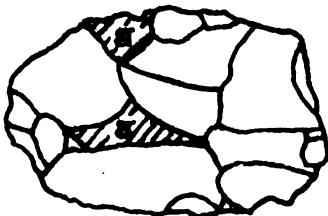
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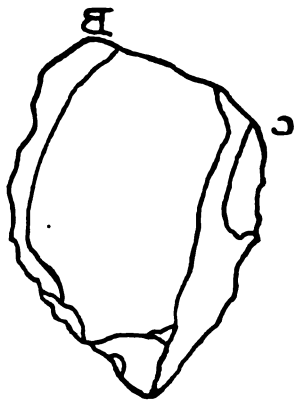
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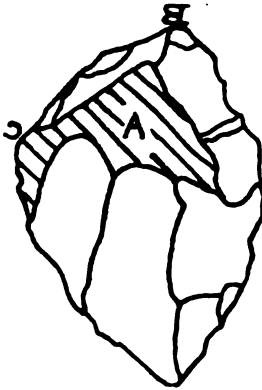


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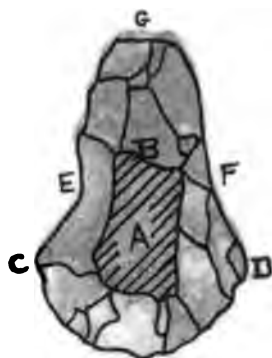
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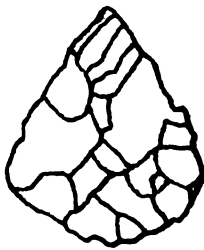


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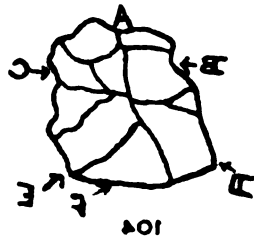


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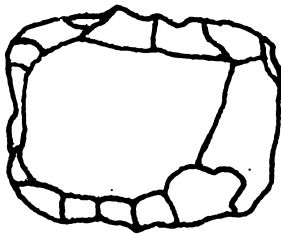
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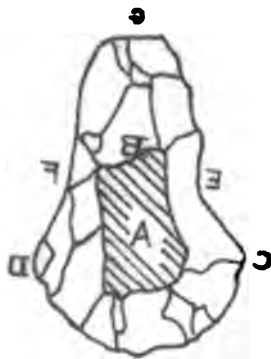
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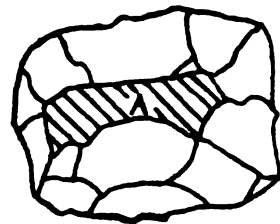
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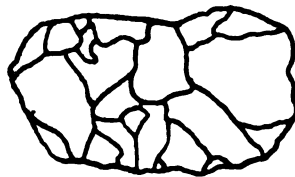
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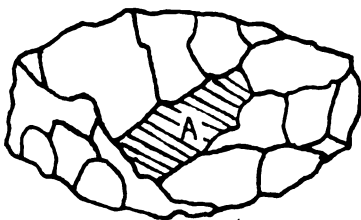
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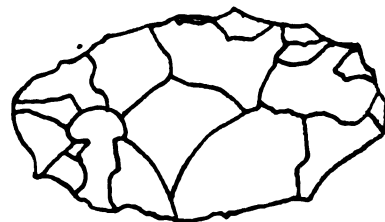
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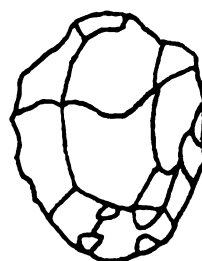
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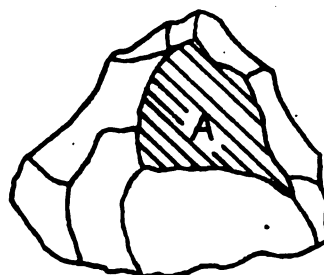
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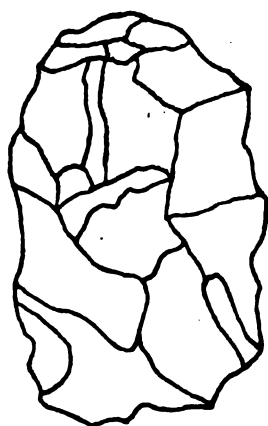
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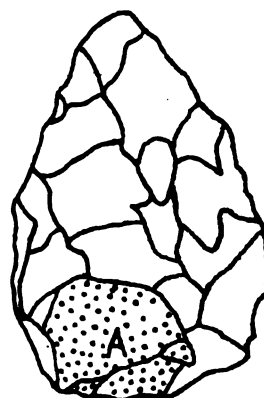
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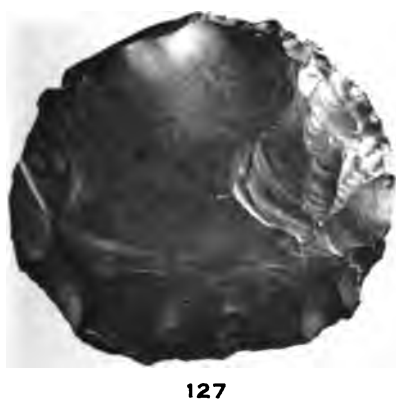
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NOTES ON THE NUNGU TRIBE, NASSAWARA PROVINCE, NORTHERN  
NIGERIA, AND THE NEIGHBORING TRIBES WHICH USE THE  
DUODECIMAL SYSTEM OF NUMERATION

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ASSISTANT DISTRICT COMMISSIONER, NIGERIA

The object of these notes is not to give an exhaustive account of the Nungu and surrounding tribes, but to show that the district is worthy of being studied by an anthropological specialist who would be able to devote his whole time to the work without the interference of official or commercial duties.

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The district covered by these tribes lies at the southwestern foot of the Bauchi Plateau. It is made up of very steep and often precipitous hills, and is traversed by four rivers descending from the plateau, as well as by minor local streams. All these become dangerously deep and rapid during the rainy season (May to September). Their beds are formed of large bowlders. The height of the country above sea level varies from about six hundred to three thousand feet. These foothills are bounded on the south by a wide and practically unbroken alluvial plain which slopes gently to the banks of the river Benue, about eighty miles to the south.

The Nungu district contains tin-bearing deposits, which several mining companies have worked. This has incidentally resulted in the finding of large numbers of neolithic axes, which seem to be very generally distributed. Two stones bored for use as weights



on digging sticks have also been found.<sup>1</sup> In addition to these objects, James Scott of the Nigerian Tin Corporation has made a very interesting find consisting of a considerable number of roughly spherical stones. These were found in a layer of gravel situated on the side of the Ninkada valley, at a depth of six feet under the present surface. The stones, which are about the size of a cricket ball, have been submitted to Henry Balfour, Curator of the Pitt Rivers Museum at Oxford, who states that some of them show distinct signs of having been used as if for grinding and pounding. Whether they are wholly artificial, or have been ground to a spherical form in potholes and then improved and adapted by human agency, it is difficult to determine.

The problem of the age of these spheres is made very difficult by the topsy-turvy state of the geology. The gravels in which they are found, at first glance, resemble river terraces (known in mining parlance as "bench-gravels") because of their position along the valley sides. But the terrace gravels rest on a layer of material which appears water worn, while above these gravels is a stratum which shows no sign of having been transported either by water or by wind. This order is exactly the reverse of what would occur in the case of true river terraces. Smellie, of the Glasgow University Geological Department, to whom Scott submitted the samples of material for microscopical examination, suggests that the layer immediately under the gravel represents the old ground surface. He thinks that the gravel may have been brought down by a sudden rush of water (cf. the deposition of material by sudden flood in the *wadys* of the Egyptian desert). The layer above the gravel which shows no evidence of transportation, may be material that is being brought down by solifaction (i. e. the downward creep of closely packed detritus in regions of great diurnal variation in temperature). Scott believes this to be the true history of the deposit, since the hills behind are granite with pegmatite veins, which is the kind of formation Smellie postulates as the parent of the layer above the gravel. Moreover the whole of the lower ground toward the river is a micaceous schist area, such as Smellie requires for the source of the layer below the gravel.

The present moment affords a great opportunity for the fuller investigation of these questions as there are two mining companies still working in this and neighboring valleys, and it is through their excavations that the implements mentioned above have come to light.

In the same deposit there was also found a small stone, roughly resembling the head of a snake. Balfour believes that this is a natural resemblance improved by human agency. A natural flaw, caused by the more rapid weathering of a soft layer in the stone, seems to have been enlarged artificially to represent the mouth.

<sup>1</sup> Such digging-weights are well known in the Anglo-Egyptian Sudan. They are still employed among the Bushman, cf. W. H. I. Bleek and L. C. Lloyd, *Specimens of Bushman folklore*, London, 1911, photograph facing p. 326. Ed.].

There arises here the same problem which is offered in the whole of West Africa south of the bend of the Niger, namely, that although there appear to be great numbers of neolithic axes,<sup>2</sup> none of the other tools usual in neolithic cultures, such as scrapers, etc. occur. Moreover no paleolithic types of implements have been found.

To return to the present inhabitants of the particular area under consideration, they are grouped into loosely knit village and tribal communities which until the establishment of the British protectorate had no common system of rule. Even the authority of the nominal village headman depended mainly on his being able by the size and prowess of his family to enforce it. The power of the local medicine man was often greater than his. All these tribes are primitive and unruly savages, and addicted to head-hunting. Some, until quite recently when the Government intervened, were cannibals.

The limits within which a person could roam were, and practically still are, mainly restricted, both as to place and occasion, to those villages with which he customarily joined in beer-drinks, or with which his village intermarried. Even these villages might have periodic hostilities which would often revive without warning during the advanced stages of a "friendly" beer-drink.

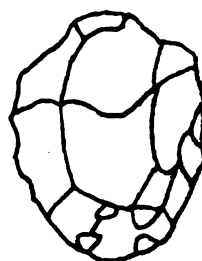
Disputes were settled either by private arrangement, if the parties were on sufficiently friendly terms, or by force if they were not. Every member of a community was held responsible for the wrongs done by any other member, and revenge could be exacted from any available member of the wrongdoer's community. Thus if a woman of one village was enticed away from her husband to live with a man in another village, any member of the second village was liable to be shot or kidnaped by the aggrieved husband and his friends.

The chief sources of disputes are women, beer, and (much less frequently) boundaries. In all these cases some means of settling the matter by compromise is usually found, and recourse to violence is avoided. The chief reason for disputes in the first case is the fact, well attested by several independent censuses, that the men far outnumber the women. Therefore there always are numbers of men who have no wives, but are trying by hook or by crook to get them. This makes the women very independent. If a sufficient inducement is offered a woman, or if she is dissatisfied with her husband's treatment, or if

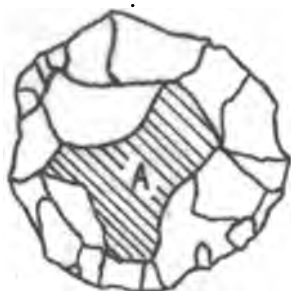
<sup>2</sup> Neolithic celts have been found in various parts of the Sudan. For Ashanti, cf. H. Balfour, 'Notes on a collection of ancient stone implements from Ejura, Ashanti' (Jour. Afr. Soc., vol. 12, no. 45, Oct. 1912, p. 1); for Baghirmi, cf. Adolf Friedrich, Duke of Mecklenburg, *From the Congo to the Nile*, London, 1913, vol. 1, p. 93; for Kordofan, H. A. MacMichael, *The tribes of Northern and Central Kordofan*, Cambridge, 1912, pl. 19, fig. 5; for the Upper Nile, R. Virchow, 'Prähistorische Eisenbeile aus dem Lande der Monbuttu' (Zeit. f. Ethnol., vol. 16, Berlin, 1884, Verhandlungen, p. 294-297). For the occurrence of celts in Nubia and Sennar the Editor can vouch personally. From Selimah Oasis comes a small nephrite (?) celt now in the Museum of Egyptian Antiquities, in Cairo (no. 45387). These implements do not seem to have been associated to a marked extent with the other common artifacts of the neolithic age, such as scrapers, arrowheads, knives, etc. This is remarkable since casual observation in the Sahara and in North Africa has led to the discovery of many chipped implements but only a few axes. Ed.]



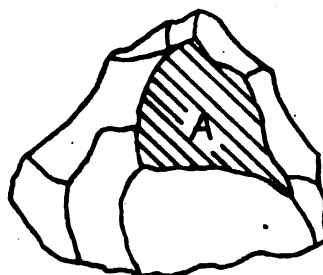
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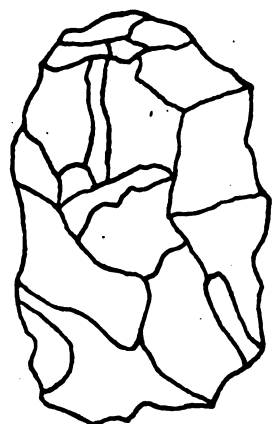
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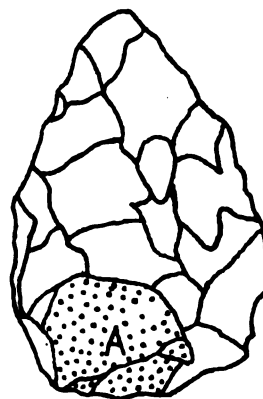
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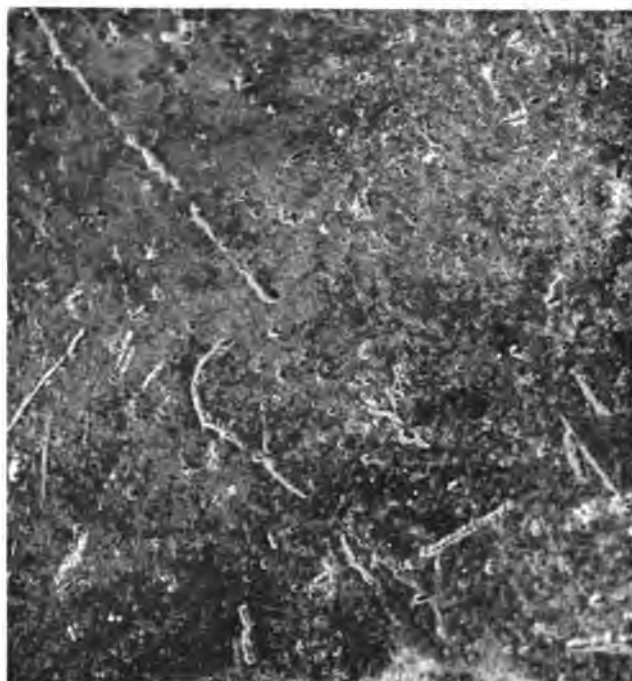
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SCRATCHES AND EXFOLIATION PITS

ENLARGED 5 DIAMETERS

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The Nungu district contains tin-bearing deposits, which several mining companies have worked. This has incidentally resulted in the finding of large numbers of neolithic axes, which seem to be very generally distributed. Two stones bored for use as weights

on digging sticks have also been found.<sup>1</sup> In addition to these objects, James Scott of the Nigerian Tin Corporation has made a very interesting find consisting of a considerable number of roughly spherical stones. These were found in a layer of gravel situated on the side of the Ninkada valley, at a depth of six feet under the present surface. The stones, which are about the size of a cricket ball, have been submitted to Henry Balfour, Curator of the Pitt Rivers Museum at Oxford, who states that some of them show distinct signs of having been used as if for grinding and pounding. Whether they are wholly artificial, or have been ground to a spherical form in potholes and then improved and adapted by human agency, it is difficult to determine.

The problem of the age of these spheres is made very difficult by the topsy-turvy state of the geology. The gravels in which they are found, at first glance, resemble river terraces (known in mining parlance as "bench-gravels") because of their position along the valley sides. But the terrace gravels rest on a layer of material which appears water worn, while above these gravels is a stratum which shows no sign of having been transported either by water or by wind. This order is exactly the reverse of what would occur in the case of true river terraces. Smellis, of the Glasgow University Geological Department, to whom Scott submitted the samples of material for microscopical examination, suggests that the layer immediately under the gravel represents the old ground surface. He thinks that the gravel may have been brought down by a sudden rush of water (cf. the deposition of material by sudden flood in the *wadys* of the Egyptian desert). The layer above the gravel which shows no evidence of transportation, may be material that is being brought down by solifaction (i. e. the downward creep of closely packed detritus in regions of great diurnal variation in temperature). Scott believes this to be the true history of the deposit, since the hills behind are granite with pegmatite veins, which is the kind of formation Smellis postulates as the parent of the layer above the gravel. Moreover the whole of the lower ground toward the river is a micaceous schist area, such as Smellis requires for the source of the layer below the gravel.

The present moment affords a great opportunity for the fuller investigation of these questions as there are two mining companies still working in this and neighboring valleys, and it is through their excavations that the implements mentioned above have come to light.

In the same deposit there was also found a small stone, roughly resembling the head of a snake. Balfour believes that this is a natural resemblance improved by human agency. A natural flaw, caused by the more rapid weathering of a soft layer in the stone, seems to have been enlarged artificially to represent the mouth.

<sup>1</sup> Such digging-weights are well known in the Anglo-Egyptian Sudan. They are still employed among the Bushman, cf. W. H. I. Bleek and L. C. Lloyd, *Specimens of Bushman folklore*, London, 1911, photograph facing p. 326. Ed.].

There arises here the same problem which is offered in the whole of West Africa south of the bend of the Niger, namely, that although there appear to be great numbers of neolithic axes,<sup>2</sup> none of the other tools usual in neolithic cultures, such as scrapers, etc. occur. Moreover no paleolithic types of implements have been found.

To return to the present inhabitants of the particular area under consideration, they are grouped into loosely knit village and tribal communities which until the establishment of the British protectorate had no common system of rule. Even the authority of the nominal village headman depended mainly on his being able by the size and prowess of his family to enforce it. The power of the local medicine man was often greater than his. All these tribes are primitive and unruly savages, and addicted to head-hunting. Some, until quite recently when the Government intervened, were cannibals.

The limits within which a person could roam were, and practically still are, mainly restricted, both as to place and occasion, to those villages with which he customarily joined in beer-drinks, or with which his village intermarried. Even these villages might have periodic hostilities which would often revive without warning during the advanced stages of a "friendly" beer-drink.

Disputes were settled either by private arrangement, if the parties were on sufficiently friendly terms, or by force if they were not. Every member of a community was held responsible for the wrongs done by any other member, and revenge could be exacted from any available member of the wrongdoer's community. Thus if a woman of one village was enticed away from her husband to live with a man in another village, any member of the second village was liable to be shot or kidnaped by the aggrieved husband and his friends.

The chief sources of disputes are women, beer, and (much less frequently) boundaries. In all these cases some means of settling the matter by compromise is usually found, and recourse to violence is avoided. The chief reason for disputes in the first case is the fact, well attested by several independent censuses, that the men far outnumber the women. Therefore there always are numbers of men who have no wives, but are trying by hook or by crook to get them. This makes the women very independent. If a sufficient inducement is offered a woman, or if she is dissatisfied with her husband's treatment, or if

<sup>2</sup> Neolithic celts have been found in various parts of the Sudan. For Ashanti, cf. H. Balfour, 'Notes on a collection of ancient stone implements from Ejura, Ashanti' (*Jour. Afr. Soc.*, vol. 12, no. 45, Oct. 1912, p. 1); for Baghirmi, cf. Adolf Friedrich, Duke of Mecklenburg, *From the Congo to the Nile*, London, 1913, vol. 1, p. 93; for Kordofan, H. A. MacMichael, *The tribes of Northern and Central Kordofan*, Cambridge, 1912, pl. 19, fig. 5; for the Upper Nile, R. Virchow, 'Prähistorische Eisenbeile aus dem Lande der Monbuttu' (*Zeit. f. Ethnol.*, vol. 16, Berlin, 1884, *Verhandlungen*, p. 294-297). For the occurrence of celts in Nubia and Sennar the Editor can vouch personally. From Seltmah Oasis comes a small nephrite (?) celt now in the Museum of Egyptian Antiquities, in Cairo (no. 45387). These implements do not seem to have been associated to a marked extent with the other common artifacts of the neolithic age, such as scrapers, arrowheads, knives, etc. This is remarkable since casual observation in the Sahara and in North Africa has led to the discovery of many chipped implements but only a few axes. Ed.]

she is moved by a desire for change, she will desert one man for another. She is, of course, careful to choose a man who lives in another village, for it would be too risky both for her and for her new consort to be within easy reach of the previous and now aggrieved husband. The first result of such a desertion is that the abandoned husband wanders round the countryside loudly bemoaning his loss to the accompaniment of a drum, and trying to get the woman to take pity on him and return. If this is of no avail, and the man is sufficiently daring, he will lie in wait, perhaps with the other men of his village, near the farms, or on the edge of the village to which the woman has run away, and will shoot or kidnap the first member of the village who appears. In this way the responsibility of the private quarrel devolves upon the community and an inter-village feud arises.

The inter-village beer-drinks are not usually the primary causes of hostilities, but when the whole village and its guests are in liquor, long-buried grievances are liable to be revived, discussed, and quarreled over; and ultimately resort is had to knives and arrows.

The beer is brewed from guinea corn (*Sorghum vulgare*), and is used not only at such celebrations as marriages, funerals, and the periodic dances and beer-drinks which it is their custom to hold, but also as a daily and almost hourly beverage. It contains much of the grain in suspension and is therefore food as well as drink. Consequently guinea corn is in bulk and importance by far the most important crop. Next in importance is a small grain almost like the grass seed called *acho* by the Hausa. From this most of the solid foods are made with the help of a number of minor root crops and a variety of local seasonings. Tobacco is locally grown and dried, and is smoked in metal, wooden, and clay pipes. It has a very strong flavor.

The original masculine dress of all these tribes except the Mada consists merely of a twisted leather girdle, the chief use of which is as a support for knives and pipes. This is often supplemented by a phallic ornament which in these districts is usually made from the narrow end of a bottle-shaped calabash (on the Bauchi Plateau it is made of plaited grass). The men of the Mada tribe wear a sheep skin or goat skin in the ordinary loin cloth fashion. The other tribes are now very gradually adopting the skin or cloth loin covering. For special occasions a newer and rather cleaner goat skin or sheep skin, with all the hair on, is slung across the shoulders.

The head is sometimes covered with a native cloth cap, or with a hemispherical calabash of suitable size. Wide brimmed hats woven from fiber are sometimes worn as a protection from sun and rain. In the North Mada district a peculiar hat, having a three-cornered (instead of circular) brim, exists. In native dances youths have been observed wearing diminutive hats about three or four inches in diameter, perched on the heads in a style reminiscent of the seaside entertainers in England.

The lobes of the ears, the nasal septum, and, in women, the centers of the upper and

lower lips are pierced for the reception of long pieces of grass, of porcupine quills, or of sticks of metallic tin. The last is probably smelted elsewhere by native traders and brought into the district, as no local smelting has been heard of.

The dress of the women varies in the different tribes. In the Mama and part of the Nungu districts the women wear nothing at all. Most of the Nungu women wear a loose girdle round the hips, from the front of which hangs an apron about six inches wide and four inches long made of a row of strings, from the end of each of which hangs a single bead. The Mada women wear a short piece of cloth round the hips forming a small kilt. Further north the Numana women use a long skein of thin strings so bound round the hips that a long tail hangs down behind. The tail is brought forward between the legs and tucked under the part wrapped round the hips.

All the tribes mark the faces by making cuts in the skin and rubbing in pigment, thus producing darkened scars. There does not seem to be any distinctive tribal pattern except among the Mada group. With the others it seems to be a matter of personal choice between several varieties. The southeastern portion of the Mada mark their faces with nine long marks — three on each side diverging from the corners of the eyes, and three on the forehead diverging from above the nose. They are known to the Hausa as "Mada Tara-tara", i. e. "the Mada with nine (marks) each". The other branch of the Mada have a system of close small cuts over the whole of the forehead and cheeks.

The chief weapon of war is the bow and arrow. The bow is of the usual short pagan type in which the string at one end is securely bound, about an inch from the extremity. It is strung for use, by straining the bow sufficiently to slacken the string, which is then passed over a notch on the end (see fig. 1). This differs both from the type used by the Hausa, which is tightened by twisting the string round one end, and from the European type with its loose loop which is slid up to the notch.

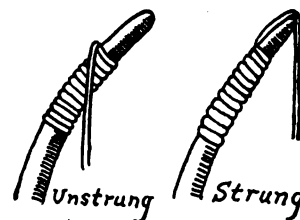


Fig. 1.

For hunting they use an arrow with a barbed iron tip bound on a stout grass shaft. The tip is wound with a little fiber which is soaked in arrow poison. For war, where arrows cannot be recovered and are used in greater numbers than in the chase, the supply of iron tips was insufficient until the country was partially pacified and opened up for trade. The war arrows were, and with characteristic conservatism still are, tipped with wood in place of iron. The wood is hardened in the fire and is cut almost through about half an inch behind the point. The point is poisoned, and on hitting its target it breaks off and remains under the skin while the rest of the arrow falls away. This makes the extraction of the point and the treatment of the wound very difficult. The plan of feathering arrows does not seem to have been adopted in West Africa. The arrows are

comparatively light, and the bows are so small and weak that the maximum effective flight of an arrow is only about two hundred yards. Even at this range the aim is very poor, and much consequently depends on the poison. This usually comprises a basis of *strophanthus*, mixed with miscellaneous filth, particularly decaying animal matter of all sorts. New poison, unless promptly treated, kills in about twenty minutes.

Knives are of various patterns. The Nungu, Ninzam, and Mama use mostly one with a wooden handle, into which a small iron blade is fastened. The Mada seem to have had larger supplies of iron, probably because they were, by their position to the west of the others, more accessible to barter with the Hausa people of Keffi, Nassarawa, and Lafia.

They favor a knife entirely of iron, of which the handle is an elongated ring which fits round the palm of the hand, the plane of the blade being at right angles to the plane of the handle (see fig. 2).

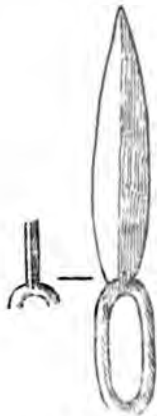


Fig. 2.

The Mada also use heavy iron swords, having a blade about three and a half inches wide and about two feet long, fitted with a wooden handle. This also indicates a greater supply of iron. The sword is carried in a sheath made of two flat pieces of wood bound round with leather.

The Nungu, Ninzam, and Mama are experts in making game pits. These vary in depth from ten to more than twenty feet, are about three feet and six inches across, and are very skilfully covered with light sticks and a sprinkling of leaves, grass, and earth in imitation of the surrounding soil. They are usually on narrow tracks and often in groups of two or three so that in avoiding one the victim falls into the next. A favorite site is at the heads of narrow ravines excavated by the rains. There they are so dug as to lie across the tracks of animals which follow this route to avoid the precipitous sides of the ravines. In the old days when the natives rarely ventured beyond their village boundaries, these pits were known to all passers-by, but now that strangers from a distance can wander anywhere without much fear of molestation, the pits are a great danger and are being suppressed by the Government.

For catching partridge, guinea fowl, and the like there is a clever snare composed of a running noose of thin string set on a small cloth platform. It is so placed that a bird treading on the platform, or pecking at the bait laid on the platform, releases a stick to which the noose is attached. The stick is pulled away by being inserted in some twisted strings strained by a stout horseshoe-shaped stick, and the noose, catching the bird round the leg or neck, holds it until the trapper comes.

The instrument which enters most conspicuously into almost every phase of the tribal life is of course the drum. Drums vary greatly in size. The largest type is that made from a hollowed tree trunk about five feet long, with a skin stretched over one end only.

Next comes the cylindrical double-ended drum, somewhat smaller in size, which is carried by a sling over the shoulders. Yet smaller than these are the kettle drums, which range from those measuring about fifteen inches high and nine inches in diameter to the large ones about three feet high and eighteen inches in diameter. The wooden part of these kettle drums is carved out of one piece and comprises three massive feet as well as the body of the drum. The skins of the large single-ended drums and of the kettle drums are stretched and adjusted by a rope passing round the drum, and made fast to a series of pegs set in the side of the drum a little below its mouth. The adjusting cord which is fastened to the pegs, in the case of the double-ended drums, is passed alternately through the edge of each skin.

The single-ended drums are laid on their sides when in use, the adjusting pegs serving to raise the end to be beaten. The operator on the big drum sits astride of it just behind the pegs and plays with the flat of his hands, while the performer on the kettle drum stands astride of it and uses two covered sticks with flattened heads. The big drum is used to give the main beat of the rhythm in the dances, while the kettle drums put in the more rapid and complicated embellishments. The big drum is also used for signaling, but no elaborate system of signals is in vogue. The chief and most frequently used signal is a call to the surrounding people to assemble to drink beer. The use of the double-ended drums seems almost restricted to solo performances by disconsolate husbands whose wives have deserted them (a frequent occurrence). It often happens that at least two men lay claim to a woman, so that whichever she may choose to live with, there is at least one left to drum for her. The custom of singing to the accompaniment of the drum is also common in courting unmarried girls, or in seducing married women. The suit of a drum performer is usually carried to the woman by a third person. If the woman consents she bestows some trinket on the intermediary to give to the man, and arrangements are then made for her to come to him.

Horns of the various kinds of antelopes and of the buffalo are used on some occasions, and a certain amount of musical effect is achieved by using a number emitting different notes — on the principle of the European “hand bell ringers”. The buffalo horn is not blown, but sung into. A small hole is made near the end and then covered with a membrane. The membrane vibrates to the singing and the horn itself acts as a resonator.

Hollow reeds are used in the dances. The noise is produced by blowing across the mouth of the reed and is little more than a discordant squeak. There is also the wooden pipe with stops, usually known as an end-flute.

Rattles are made of the bottle-shaped calabash. The calabash is enclosed in a loose string net, with small pieces of bone or hard wood strung between the meshes. These rattles are used only in the Juju dances, which the women must not see. Rattles of iron



and wood are often bound round the leg below the knee to add effect to the steps of the dancers.

The bull-roarer is also known. I was informed that it is used only as a toy, or to scare monkeys and birds from the crops, but I have heard it in the distance, combined with all the other noises of a Juju dance, and therefore think it very probable that it possesses magical attributes.

The person who represents the Juju in the Juju dances is usually dressed in a closely meshed and tightly fitting net, completely enclosing him from the crown of his head to the thighs. He wears also a short kilt of dried grasses. The usual porcupine quills or pieces of grass are thrust through the nose and ears and project through the net with peculiar effect. Headdresses shaped like a guardsman's busby and made of monkey skin are also worn.

If during a Juju dance one of the rattles breaks, the dance is immediately stopped until a chicken has been sacrificed to the Juju, when the dance is resumed.

There is evidence of a belief in the continued existence of the spirit after death, as it is customary to swear by the spirits of one's dead parents, and there are ceremonies for propitiating the spirits of the dead.

There is a tree whose leaves resemble those of the shea tree, and which is named by the Hausa "namijin kadanya", i. e. "the male shea", which is believed to possess magical powers, and of which the leaves are held to have sacred properties. Oaths are sworn on them; they are attached to objects, such as bundles of thatching grass and the like, and left on farms or in the bush, to prevent them from being stolen. They are also used as a flag of truce between unfriendly groups of people.

If anyone kills a relative by stabbing or shooting it is believed that he will become a leper. But if the relative is killed by strangulation, the murderer will not become a leper unless he actually comes in contact with the dead body afterwards. In cases which have been officially investigated, this risk has been obviated by the murderer using a rope or hooked stick to drag the victim to the place where he intends to conceal him. If the man murdered is not a close relative, there is no fear of leprosy. Contact with a murdered body will not give leprosy to anyone except the person who committed the murder. The basis of this belief is probably the very general confusion of the material with the spiritual, whence springs the idea that the actual blood of a relative is closely associated with one's own spirit and with that of the family, and so must not be spilt. The literal spilling of blood is avoided by strangulation. This explanation, however, does not account for the avoiding of contact with the dead body afterwards. This may be due to a belief that the spirit of the murdered man is still associated with the body after death, and is enabled to avenge itself by transmitting sickness to the murderer, though only by actual contact.

All forms of sickness are attributed to bad magic of some sort or other, and although native remedies are used for various illnesses their basis is believed to be magical. It

follows that dirt and unsanitary conditions are not associated by the natives with disease. As a result, epidemic diseases are common, and ugly sores often develop from insignificant cuts wrongly treated.

Mourning for a deceased relative is shown by tying several turns of newly made string round the neck, chest, and waist.

Every village has its Juju grove, which consists of a ring of shady trees, in the center of which is an upright stone. The grove is usually surrounded by a dry-built stone wall. This is the center of all the village ceremonies, from the ordinary beer-drink or dance to the Juju ceremonies. It was in these groves that the human skull trophies of the head-hunting tribes were generally deposited, either temporarily or permanently.

The usual site for a village is the summit of a hill with sufficiently steep sides and sufficiently small area of level ground at the top to facilitate defence. The height of the hill is of minor importance. Some of the villages on the highest summits have to carry water up from springs four or five hundred feet down the slopes. Some villages have chosen clearings in a belt of jungle, the paths through which are narrow, intricate, and easily barricaded. With increasing security to life and property under the British administration, there is a tendency for the villagers to abandon these strongholds and to live nearer their farms; but it will be some time before their innate conservatism and their doubt of the permanency of present conditions will have been sufficiently overcome for this move to become general.

The usual type of compound consists of a closely-built group of circular huts usually not more than four feet apart. All the outer ones are joined by mud or stone walls and the whole of the interior is so taken up with huts as to leave no open space in the center. The huts are connected internally by small doorways from one to the other, and communications are therefore intricate. There is frequently an emergency exit loosely built up so that a push from the inside will dislodge the mud.

The ordinary vase-shaped type of grain store is built of dried mud, and is raised from the floor on a narrow base formed of a number of stones to hinder vermin and white ants from entering. They vary in size from three feet high and one foot wide for the small grains such as *acha* and *ibra* to twelve feet high and five feet wide for guinea corn. They are built inside the huts—the hut containing the large type being the largest they build—about ten to twelve feet in diameter. The space between the central granary and the outer wall of this hut is used as a living room. This type of closely built compound will probably be gradually replaced by the more open and spacious type as the need of economizing space for purposes of defence is seen to have disappeared.

From the foregoing description the reader will have rightly inferred that the only industry in these parts is agriculture. A very few men combine with it the smith's art so far as to make hoes, arrowheads, and iron bangles. Each person makes his own string, baskets, stools, and other simple implements and furniture.

Live stock is limited to the pagan types of small goats and sheep, and to chickens and dogs.

All these tribes use the duodecimal system of counting, as do also a number of others living to the north and northeast — i. e. along the bottom and top of the western escarpment of the Bauchi Plateau. I have had no opportunity of investigating the geographical limits of the system of duodecimal numeration. None of the tribes have any system of writing. The various languages extend over very limited areas and shade off at the edges into the neighboring ones. A native traveling twenty miles from his village would in most cases have great difficulty in making himself understood. This appears to be due to two causes: first, the languages, not having been reduced to writing, tend to alter rapidly; and second, the mutual distrust and hostility between villages and tribes restrict intercourse so much that the alterations are quite local, and the languages tend to diverge. Owing to the primitive character of the people, and to the limited time at my disposal for such researches, I have been unable to collect very large vocabularies, or to get sufficient data to compare fully the various inflexions, particles, prefixes, and suffixes they employ, but I have collected enough to show that the languages are very varied both in grammar and vocabulary. I have also been able to compare the numerals in four of the languages, namely, Nungu, South Mada, Mama, and Ninzam and have made the appended comparative table. I have drawn certain conclusions from the data given thereby, and these conclusions I will first state and then explain. My conclusions are: (1) originally the tribes from which the present ones are descended used a quinary, and then a decimal system of numeration, (2) that at a comparatively recent date some influences, which affected a large area comprising many tribes, introduced words for eleven and twelve on which, with their previous decimal system, were built the present duodecimal vocabularies. This introduction was not only original, but was a stroke of genius, for it produced a system which is far more convenient than the decimal system, the twelve-group being divisible by two, three, four, and six whereas the ten-group is only divisible by two and five.

The data which seem to support the two conclusions stated are as follows. Even at the present day there remain sufficient indications that the numbers from six to nine were originally formed by some sort of compounding of five with the numbers from one to four respectively — the essential characteristic of a quinary system. The Nungu shows this least. But even here we see *ata* (= 5) with *tamba* (= 7). It is true that the termination *-ba* (= 2), very common around the Niger-Benue confluence, seems to be lost here, unless it emerges in the Mama word *bari*. We have also a similarity between *anne* (= 4) and *sane* (= 9).

In South Mada the words from six to nine have *af-* in common for their first syllable, and four and nine are *enye* and *afwunye* respectively.

In Mama we have *bari* (= 2) and *tañzabari* (= 7), *iyenu* (= 4) and *tinzhenu* (= 9). These last two are even more closely allied than the spelling indicates, for the actual difference is very slight between the sounds which in the former was reduced in writing to *iy-* and in the latter to *zh-*. In each the tongue is in contact with the palate, and the teeth are not closed, the regulating shade of difference seeming to be determined by the first syllable in *tinzhenu*.

In Ninzam there is *etoñi* (= 5) which with *iri* (= 1) seems to give *tañre* (= 6). With the above-mentioned *-ba* termination for two, *eton* (= 5) gives *tañba* (= 7), while with *itra* (= 3) gives *tandra* (= 8).

Further, it is noticed that although the numerals from one to ten in the respective languages differ widely, the numerals for eleven and twelve have an obvious similarity. Thus, eleven in Nungu is *opo*; in South Mada *helaio*bo (the last two syllables therefore equivalating *-opo*); in Mama *po*, and in Ninzam *ipo*. Twelve is in Nungu *oso*; in South Mada *eswo*; in Mama *so*, and in Ninzam *tso*. It seems natural, therefore, to infer that these two numerals for eleven and twelve have not been influenced by the causes making for divergence to anything like the extent that the other ten have. But as the only cause discernible is the passage of time, it would seem (unless these conclusions are refuted by data collected from the remaining tribes in the future) that the names for eleven and twelve must be comparatively modern additions to what were formerly, as shown by internal evidence, quinary and decimal systems.

The decimal system is now being very gradually reverted to by dropping the numerals for eleven and twelve and forming the higher numbers on multiples of ten. This is due to increasing intercourse with the Hausa and Yoruba traders and the surrounding tribes which, until the establishment of the British administration, did not dare to enter these parts.

#### NUMERATION

Decimal	Duodecimal	NUNGU	SOUTH MADA	MAMA	NINZAM
1	1	iri, or ndindi	eren, -etye (in compounds)	mo'on	iri
2	2	aha	ehe	bari	aha
3	3	acha	echa	taru	itra
4	4	anne	enye	iyenu	nza
5	5	ata	atono	tonñu	etoñ
6	6	ndra	afini	tañza	tañrebari
7	7	tamba	afwa	tañzabari	tañba
8	8	sene	afwotara	yanga	tañdra
9	9	sane	afwunye	tinzhenu	chra
10	t	owo	ekobo	lum	uru
11	e	opo	helaiobo	po	ipo
12	10	oso	eswo	so	tso

1. The first part of the document is a list of names and addresses, which are arranged in two columns. The names are written in a cursive script, and the addresses are written in a more formal, printed style. The list includes names such as "John Smith", "Mary Jones", and "Robert Brown", along with their respective addresses in various cities and states.

2. The second part of the document is a list of names and addresses, which are arranged in two columns. The names are written in a cursive script, and the addresses are written in a more formal, printed style. The list includes names such as "John Smith", "Mary Jones", and "Robert Brown", along with their respective addresses in various cities and states.

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1. TWO NUNGU YOUTHS IN  
DANCING DRESS



2. NUNGU WOMEN AND CHILDREN, SHOWING DRESS AND  
MANNER OF CARRYING BABIES



3. THE CHIEF OF THE NUNGU  
DISTRICT, DRESSED IN  
HAUSA FASHION





## A STUDY OF THE ANCIENT SPEECH OF THE CANARY ISLANDS

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When the natives of the Canarian Archipelago first became known to western Europe in the 14th century, they were still living in a stone age state of civilization. They had no knowledge even of boats or canoes; hence there was no intercommunication between the islands, and each developed in its own way. These facts alone are sufficient reason for investigating what remains of their ancient language or languages. From the proximity of the islands to the mainland it is natural to expect that the speech of the natives should have some sort of kinship with that of the tribes on the opposite coast. Earlier Spanish writers like Espinosa<sup>1</sup> and Galindo were fully of that opinion and mention certain Canarian words which were quite similar to those spoken by the Berbers, the Zenagas, and the Arabs whom they knew of on the mainland.

The Berbers and Zenagas, it is hardly to be doubted, are descended more or less directly from the ancient Libyans who must have occupied the whole of North Africa before history takes any notice of them at all. It may be presumed that the earliest colonists of the Archipelago, if the colonization took place not earlier than about 2000 B. C., were of Libyan extraction and spoke a proto-Libyan dialect. A study of the few remains of the ancient speech of the Islanders is therefore of remarkable interest. It may throw some light upon the language of the western Libyans, Mauritani-ans, and Gaetuli-ans, before it assumed the modern phase of the existing Berber dialects, especially those of Morocco.

These remains are scanty enough,<sup>2</sup> consisting as they do of a few hundred words and

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#### THE PRONUNCIATION OF CANARIAN WORDS

A very important point to clear up, one that escaped the attention of Dr. Berthelot and the late Marquis of Bute, is the manner in which certain Spanish consonants were pronounced when the Canarian words were first committed to writing. It is well known that within the last two or three hundred years great changes have taken place in the sounds

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of the Spanish *g, j, x*. Much can be learned in this respect from the numerous Arabic loan words adopted into Spanish, for Arabic pronunciation has remained more stable. For the following information I am indebted to Engelmann. I have not restricted my application of his results to the consonants of *g, j, x*, but have extended it to other letters, for the sequel will show that the transcription of Arabic loan words was closely followed in taking down Canarian words.

The chief consonantal modifications to be seen in Spanish loan words from the Arabic may be summarized as follows:—

**B**, when initial, remains; medially it is sometimes replaced by *v* or by *p*.

(Sp.) rapita from (Ar.) rābiṭa.

(Sp.) julepe from (Ar.) ḡolāb.

(Sp.) arrope from (Ar.) ar-robb.

**Ḥ (ح)** in the middle of a word becomes *f* or *h*, but *ḥa* changes to *c* (*qu*).

(Sp.) alforjas from (Ar.) al-ḥorġ.

(Sp.) almohadda from (Ar.) al-miḥadda.

(Sp.) alcana from (Ar.) al-ḥanāt.

**Ḥ (ح)** initial and medial, is rendered by *f* or *h*.

**Ġ (غ)** both initial and medial, is rendered by *g* (*ga, go, gu, gua, gui*).

**Q (ق)** initially remains *c*; medially it occurs as *c, que, qui*. Final *q* is rendered by *ga, go*.

(Sp.) alfocigo from (Ar.) al-fostoq.

(Sp.) alhondiga from (Ar.) al-fondoq.

**K** undergoes the same change as *q*.

**Ġ (ج)**. In 1505 when Pedro del Alcala wrote an Arabic vocabulary in Spanish letters, Spanish *a, ju, ge, gi* had the sound of Arabic *ġa, ġo, ġeo, ġi*. Arabic final *ġ* was rendered by *ge, ch, che*. As in the Arabic spoken in Algeria and Morocco, *ġ* is frequently pronounced like *j* (French *j* in *jour*), it is possible that the Spanish sounds of *ja, ju, ge, gi* were pronounced like French *ja, ju, ge, gi*. But this modern Arabic pronunciation of *ġ* may be of more recent date than the Spanish loan words.

**Š (ش)** was rendered initially, medially, and finally by *x*, though medially *ch* (*š*) was occasionally substituted. This pronunciation of *x* lasted into the early part of the 17th century, as is shown by our word *sherry* derived from the town of Xerez, in the Arabic Šerts. The word first occurs in 1608 as *shirry*, and in 1614 as *sherry*. A translation of Don Quixote into French appeared in 1614, and the transliteration of the title as Don Quichotte proves that *x* still retained the sound of *š*. For the next two hundred years *x* had the value of *h*, but towards the beginning of the last century the Spanish Academy in its spelling reform transferred this value of *h* to *j* and assigned to *x* its modern sound of *ks*. In modern Castilian the sound of *š* has disappeared. It does not appear to be known when *j, ge, gi* lost their earlier sound of *ġ* and became *h, he, hi*, but it may be supposed that the old sound remained, at any rate till about the end of the 16th century.

**S (س)** both initial and medial, becomes *z* and is sometimes spelled *ça, ço, çu, ce, ci*. At the end of a word it always changes into *z*.

**Ḍ (ض)** changes into *d*. When final it is written *de*.

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**D (د)** when initial and medial, remains; when final it is written *d, de, te*.

**F** is generally rendered by *f*, though sometimes by *h*. When final it is written *fe*.

**W (و)** when initial is rendered by *gua*; medially, by *gu* or *hue*; when final by *u*.

L when initial, remains; medially and finally it sometimes changes into *r*.

M remains, but when final changes into *n*.

R when initial, remains; medially and finally it sometimes exchanges with *l*. The letters *l* and *r* are often intercalated in the middle of words. Cf. *aduf(r)e*, *calib(r)e*, *almocaf(r)e*, *a(l)mirante*.

ST is softened to *z* (*c*, *ç*).

(Sp.) *mozarabe* from (Ar.) *mosta'rab*.

(Sp.) *eciya* from (Ar.) *estiga*.

(Sp.) *alfocigo* from (Ar.) *al-fostoq*.

From the above remarks it may be assumed as certain that for the earlier writers Gómez Escudero, Cedeño, and Espinosa, *x* had the sound of *š*; and a Spanish *j* before any vowel, together with *ge*, *gi*, had the sound of *ğ* or French *j*. As regards Viana it is not so certain. But for Galindo and subsequent authors *x* had the value of *ħ*; and Spanish *j* before any vowel, together with *ge*, *gi*, had the sound of *ħ*, *ħe*, *ħi*. This change is seen in later variants of *xiraxi* which is transcribed *gerage* and *hirahi*.

#### TRANSCRIPTION OF BERBER AND ARABIC WORDS

The vowels are pronounced approximately as in Italian: the consonants *b*, *d*, *f*, *h*, *k*, *l*, *m*, *n*, *r*, *s*, *t*, *w*, *y*, *z*, as in English.

#### Additional letters.

č = *ch* in 'child' or in Spanish 'chibo'.

ð = *th* in 'this', or modern Greek *θέλα*.

ḍ = emphatic *ḍ*.

ḍ = emphatic *d*, spoken from the back of the mouth.

θ = *th* in 'think' or Greek *θήρα*.

ğ = *g* in 'gem'.

ğ = Ar. *ġ*, like French *r grasseyé*. French writers usually write it *r*'.

ħ = Ar. *ح*. It is not a Berber sound.

ħ = Ar. *ح* = Greek *χ* = Spanish *Jota*.

*j* = French *j* in 'jour'.

ñ = *ng* in 'bang'.

q = Ar. *ق*. A strong *k* spoken in the throat.

š = Ar. *ش* is a strong palatal *s*.

š = *sh* in 'shall'.

ṭ = emphatic *t* spoken from the back of the mouth.

ẓ = emphatic *z* spoken from the back of the mouth.

' = Ar. *ع*, sounded with a constriction of the throat. Not a Berber sound.

#### THE DISTRIBUTION OF BERBER-SPEAKING PEOPLE

The people known under the generic title of Berbers are scattered over a wide extent of country in northern Africa, though often separated from each other by great intervals. They may be distributed geographically into three zones, a northern, a central, and a southern. The first extends from the oasis of Sīwah in the east, across Tripolitana, Tunisia, Algeria, and Morocco to the Atlantic Ocean, the southern boundary being the Great Atlas range. But in Morocco the northern zone extends south of the Atlas into the province of Sūs. The middle belt lies between the Atlas Mountains and the northern fringe of the Sahara. The third zone is bounded on the south by the Niger and Senegal rivers.

In comparing Canarian with Berber words only a few of the many Berber dialects have been turned to account. For it is not the object of this paper to show how widely any particular Berber word is current dialectically. It is sufficient to demonstrate that a Canarian word has an analogy with a Berber term of similar form and meaning. In the northern zone, mention is made of the dialects of Siwah; of Gebel Nefusa in Tripolitana lying to the southwest of the town of Tripoli; of the Qabyles of the Jurjura mountains lying between the towns of Dellis and Bougie on the northern coast of Algeria; of the Beni Menacer who occupy territory between Milliana and Shershal on the coast; of the Rtf who inhabit the eastern part of Morocco where it borders on Algeria; of the Moroccans of Demnat, a town situated about eighteen hours journey nearly northeast of the city of Morocco; of the Shilha or Shluh in the province of Sûs in southern Morocco.

In the central belt notice is occasionally taken of the dialects of the confederation of the Beni Mzab of Zenata stock, who now live about Lat. 33° N. though formerly they inhabited Algeria proper; of the dialect of Wargla, which is spoken to the south and a little to the east of the Beni Mzab on Lat. 32° N.; of Ghadames in Tripolitana, spoken to the southeast of Wargla nearly on Lat. 30° N.; of Gurara beyond the southwest corner of Algeria, between Lat. 28° and 29° N. in a line with the Canary Islands.

In the southern zone the Ahoggar or Ahaggar occupy the plateau of that name, which lies southeast of Gurara between Lat. 20° and 25° N. The Ahoggar are a branch of the Imoşag, the Tawârek of the Arabs, and embrace many tribes. Among these are the noble Kel Taitoq, whose dialect has been carefully investigated by Masqueray, and the servile Isaggamaren, whose dialect, under the title of Tamoşeq, has been studied by Hanoteau. The Awellmmiden take their name from the great Berber family, the Lemta or Lemtuna, of Senhadja or Zenaga stock. They nomadize and pillage over a great tract of country lying to the southwest of the Ahoggar as far as the town of Timbuktu on the Niger, nearly in Lat. 17° N. The Zenaga or Senhadja of Arab authors, are now found in Tagânet, about Lat. 19° N., and further south on the lower Senegal river. But Leo Africanus, who traveled in Morocco about the year 1514, found Zenaga in the valley of the Ziz in the district of Tafilet or Taflet in Lat. 31° N. He also states that the dry desert of the Zanhaga was bordered on the west by the ocean and extended eastwards to the salt pits of Tegaza. Northwards it abutted on Sûs, Acca, and Dara, and southwards it stretched to the land of the negroes, to the kingdoms of Walata and Tombuto (Timbuktu). Tegaza is the Trasas or Tgaza of René Caillié. It lies within Lat. 22°-30° N. and nearly on Long. 4° W. of Greenwich. Galindo mentions the Zenaga in a way which suggests that in his day they lived a great deal further north than the Senegal river, no doubt in the southern parts of Morocco.

Distributed as they are over so large an area in northern Africa, it is self-evident that the Berber dialects must differ from each other very considerably in their vocabulary and

Decimal	Duodecimal	NUNGU	SOUTH MADA	MAMA	NINZAM
13	11	oso shi iri	eswolatyē or boren	so kune mo'on	tsodori
14	12	oso shi aha	eswolaha, or boha	so kune bari	tsodeha
15	13	oso shi acha	eswolacha, or bocha	so kune taru	tsodetra
16	14	oso shi anne	eswolanye, or bonye	so kune iyenu	tsodinza
17	15	oso shi ata	eswolatono, or botono	so kune toñnu	tsoditoñ
18	16	oso shi ndra	eswolafini, or bofini	so kune tañza	tsotañre
19	17	oso shi tamba	eswolafwa, or bofwa	so kune tañzabari	tsotañba
20	18	oso shi sene	eswolafwotara, or bofwatara	so kune yanga	tsotañdra
21	19	oso shi sane	eswolafwunye, or bofwunye	so kune tinzhenu	tsorichra
22	1t	oso shi owo	eswolekobo, or bokobo	so kune lum	tsoduru
23	1e	oso shi opo	eswolhelaiobo, or bohelaiobo	so kune po	tsodipo
24	20	oso aha	eswaha	so bari	tseha
25	21	oso aha shi iri	swahalatye	so bari kune mo'on	tsehadori
26	22	oso aha shi aha	swahalaha	so bari kune bari	tsehadaha
27	23	oso aha shi acha	swahalecha	so bari kune taru	tsehadetra
28	24	oso aha shi anne	swahalenye	so bari kune iyenu	tsehadinza
29	25	oso aha shi ata	swahalatono	so bari kune toñnu	tsehaditoñ
30	26	oso aha shi ndra	swahalafini	so bari kune tañza	tsehatañre
35	2e	oso aha shi opo	swahalehelaiobo	so bari kune po	tsehadipo
36	30	oso acha	swacha	so taru	tsetra
48	40	oso anne	swanye	so iyenu	tsenza
60	50	oso ata	swatono	so toñnu	tsetoñ
72	60	oso ndra	swafini	so tañza	tsetañre
84	70	oso tamba	swafwa	so tañzabari	tsetañba
96	80	oso sene	swafwotara	{ so yanga, or so ungun yanga	tsetañdra
108	90	oso sane	swafwunye	so ungen tinzhenu	tsechra
120	t0	oso owo	swakobo	so ungun lum	tseuru
132	e0	oso opo	swahelaiobo	so ungun po	tsepo
144	100	mina <sup>3</sup>	ndřa <sup>4</sup>	so ungun so	tsetso
145	101	mina shi iri	ndřaletye	so ungun so kune mo'on	tsetsodori
288	200	mina aha	ndřaha		iyiha
432	300	mina acha	ndřacha		iyitra
576	400	mina anne	ndřanye		iyinza
720	500	mina ata	ndřatono		iyitoñ
864	600	mina ndra	ndřafini		iyitañre
1008	700	mina tamba	ndřafwa		iyitañba
1152	800	mina sene	ndřafwotara		iyitañdra
1296	900	mina sane	ndřafwunye		iyichra
1440	t00	mina owo	ndřakobo		iyiuru
1584	e00	mina opo	ndřahelaiobo		iyipo
1728	1000	mina oso	ndřaswo		iyitso

N. B. ñ is nasal n

<sup>3</sup> Apparently adopted from Arabic, through Hausa, *minya*.

<sup>4</sup> French guttural r.



3. THE CHIEF OF THE NUNGU  
DISTRICT, DRESSED IN  
HAUSA FASHION



2. NUNGU WOMEN AND CHILDREN, SHOWING DRESS AND  
MANNER OF CARRYING BABIES



1. TWO NUNGU YOUTHS IN  
DANCING DRESS



## A STUDY OF THE ANCIENT SPEECH OF THE CANARY ISLANDS

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K undergoes the same change as *q*.

Ġ (ج). In 1505 when Pedro del Alcala wrote an Arabic vocabulary in Spanish letters, Spanish *a, ju, ge, gi* had the sound of Arabic *ġa, ġo, ġeo, ġi*. Arabic final *ġ* was rendered by *ge, ch, che*. As in the Arabic spoken in Algeria and Morocco, *ġ* is frequently pronounced like *j* (French *j* in *jour*), it is possible that the Spanish sounds of *ja, ju, ge, gi* were pronounced like French *ja, ju, ge, gi*. But this modern Arabic pronunciation of *ġ* may be of more recent date than the Spanish loan words.

Š (ش) was rendered initially, medially, and finally by *x*, though medially *ch* (ɕ) was occasionally substituted. This pronunciation of *x* lasted into the early part of the 17th century, as is shown by our word *sherry* derived from the town of Xerez, in the Arabic Šerš. The word first occurs in 1608 as *shirry*, and in 1614 as *sherry*. A translation of *Don Quixote* into French appeared in 1614, and the transliteration of the title as *Don Quichotte* proves that *x* still retained the sound of š. For the next two hundred years *x* had the value of *h*, but towards the beginning of the last century the Spanish Academy in its spelling reform transferred this value of *h* to *j* and assigned to *x* its modern sound of *ks*. In modern Castilian the sound of š has disappeared. It does not appear to be known when *j, ge, gi* lost their earlier sound of *ġ* and became *h, he, hi*, but it may be supposed that the old sound remained, at any rate till about the end of the 16th century.

S (س) both initial and medial, becomes *z* and is sometimes spelled *ça, ço, çu, ce, ci*. At the end of a word it always changes into *z*.

D (ض) changes into *d*. When final it is written *de*.

ḍ (ض) becomes *d*.

D (د) when initial and medial, remains; when final it is written *d, de, te*.

F is generally rendered by *f*, though sometimes by *h*. When final it is written *fe*.

W (و) when initial is rendered by *gua*; medially, by *gu* or *hue*; when final by *u*.

L when initial, remains; medially and finally it sometimes changes into *r*.

M remains, but when final changes into *n*.

R when initial, remains; medially and finally it sometimes exchanges with *l*. The letters *l* and *r* are often intercalated in the middle of words. Cf. *aduf(r)e*, *calib(r)e*, *almocaf(r)e*, *a(l)mirante*.

ST is softened to *z* (*c*, *ç*).

(Sp.) *mozarabe* from (Ar.) *mosta'rab*.

(Sp.) *eciya* from (Ar.) *estiya*.

(Sp.) *alfocigo* from (Ar.) *al-fostoq*.

From the above remarks it may be assumed as certain that for the earlier writers Gómez Escudero, Cedeño, and Espinosa, *x* had the sound of *š*; and a Spanish *j* before any vowel, together with *ge*, *gi*, had the sound of *ġ* or French *j*. As regards Viana it is not so certain. But for Galindo and subsequent authors *x* had the value of *ħ*; and Spanish *j* before any vowel, together with *ge*, *gi*, had the sound of *ħ*, *he*, *hi*. This change is seen in later variants of *xiraxi* which is transcribed *gerage* and *hirahi*.

#### TRANSCRIPTION OF BERBER AND ARABIC WORDS

The vowels are pronounced approximately as in Italian: the consonants *b*, *d*, *f*, *h*, *k*, *l*, *m*, *n*, *r*, *s*, *t*, *w*, *y*, *z*, as in English.

#### Additional letters.

č = *ch* in 'child' or in Spanish 'chibo'.

ð = *th* in 'this', or modern Greek *θέλα*.

ǧ = emphatic *ḡ*.

ḍ = emphatic *d*, spoken from the back of the mouth.

θ = *th* in 'think' or Greek *θήρα*.

ġ = *g* in 'gem'.

ġ = Ar. *ġ*, like French *r grasseyé*. French writers usually write it *r*'.

ħ = Ar. *ħ*. It is not a Berber sound.

ħ = Ar. *ħ* = Greek *χ* = Spanish *Jota*.

*j* = French *j* in 'jour'.

ŋ = *ng* in 'bang'.

q = Ar. *ق*. A strong *k* spoken in the throat.

š = Ar. *ش* is a strong palatal *s*.

š = *sh* in 'shall'.

ṭ = emphatic *t* spoken from the back of the mouth.

z = emphatic *z* spoken from the back of the mouth.

' = Ar. *ع*, sounded with a constriction of the throat. Not a Berber sound.

#### THE DISTRIBUTION OF BERBER-SPEAKING PEOPLE

The people known under the generic title of Berbers are scattered over a wide extent of country in northern Africa, though often separated from each other by great intervals. They may be distributed geographically into three zones, a northern, a central, and a southern. The first extends from the oasis of Siwah in the east, across Tripolitana, Tunisia, Algeria, and Morocco to the Atlantic Ocean, the southern boundary being the Great Atlas range. But in Morocco the northern zone extends south of the Atlas into the province of Sûs. The middle belt lies between the Atlas Mountains and the northern fringe of the Sahara. The third zone is bounded on the south by the Niger and Senegal rivers.

In comparing Canarian with Berber words only a few of the many Berber dialects have been turned to account. For it is not the object of this paper to show how widely any particular Berber word is current dialectically. It is sufficient to demonstrate that a Canarian word has an analogy with a Berber term of similar form and meaning. In the northern zone, mention is made of the dialects of *Sîwah*; of *Gebel Nefusa* in *Tripolitana* lying to the southwest of the town of *Tripoli*; of the *Qabyles* of the *Jurjura* mountains lying between the towns of *Dellîs* and *Bougîe* on the northern coast of *Algeria*; of the *Beni Menaçer* who occupy territory between *Milliana* and *Shershal* on the coast; of the *Rîf* who inhabit the eastern part of *Morocco* where it borders on *Algeria*; of the *Moroccans* of *Demnat*, a town situated about eighteen hours journey nearly northeast of the city of *Morocco*; of the *Shilha* or *Shluh* in the province of *Sûs* in southern *Morocco*.

In the central belt notice is occasionally taken of the dialects of the confederation of the *Beni Mzab* of *Zenata* stock, who now live about Lat. 33° N. though formerly they inhabited *Algeria* proper; of the dialect of *Wargla*, which is spoken to the south and a little to the east of the *Beni Mzab* on Lat. 32° N; of *Ghadames* in *Tripolitana*, spoken to the southeast of *Wargla* nearly on Lat. 30° N.; of *Gurara* beyond the southwest corner of *Algeria*, between Lat. 28° and 29° N. in a line with the *Canary Islands*.

In the southern zone the *Ahoggar* or *Ahaggar* occupy the plateau of that name, which lies southeast of *Gurara* between Lat. 20° and 25° N. The *Ahoggar* are a branch of the *Imošag*, the *Tawârek* of the *Arabs*, and embrace many tribes. Among these are the noble *Kel Taitoq*, whose dialect has been carefully investigated by *Masqueray*, and the servile *Isaggamaren*, whose dialect, under the title of *Tamošeq*, has been studied by *Hanoteau*. The *Awelimmiden* take their name from the great Berber family, the *Lemta* or *Lemtuna*, of *Senhadja* or *Zenaga* stock. They nomadize and pillage over a great tract of country lying to the southwest of the *Ahoggar* as far as the town of *Timbuktu* on the *Niger*, nearly in Lat. 17° N. The *Zenaga* or *Senhadja* of *Arab* authors, are now found in *Tagânet*, about Lat. 19° N., and further south on the lower *Senegal* river. But *Leo Africanus*, who traveled in *Morocco* about the year 1514, found *Zenaga* in the valley of the *Ziz* in the district of *Tafilelt* or *Tafilet* in Lat. 31° N. He also states that the dry desert of the *Zanhaga* was bordered on the west by the ocean and extended eastwards to the salt pits of *Tegaza*. Northwards it abutted on *Sûs*, *Acca*, and *Dara*, and southwards it stretched to the land of the negroes, to the kingdoms of *Walata* and *Tombuto* (*Timbuktu*). *Tegaza* is the *Trasas* or *Tgaza* of *Réné Caillié*. It lies within Lat. 22°–30° N. and nearly on Long. 4° W. of *Greenwich*. *Galindo* mentions the *Zenaga* in a way which suggests that in his day they lived a great deal further north than the *Senegal* river, no doubt in the southern parts of *Morocco*.

Distributed as they are over so large an area in northern Africa, it is self-evident that the Berber dialects must differ from each other very considerably in their vocabulary and

phonology, and must be often mutually unintelligible. Since the invasion and conquest of North Africa by the Arabs, all the Berbers of the northern zone, and perhaps to a less degree those of the middle belt, have incorporated a vast number of Arabic words — a proceeding which has naturally led to many native terms being discarded and superseded by foreign ones. But this destructive operation has not acted in a uniform manner, whence it happens that some northern dialects preserve old native words which have disappeared in other dialects. But in the southern zone, where Arab influence has not penetrated to the same degree as in Morocco, Algeria, Tunis, and Tripolitana, the Berber language has been better preserved. Hence the Saharan dialects are the most helpful in determining the Berber affinities of Canarian speech. But there is one difference between the phonology of the northern and southern zones which requires notice. A northern *z* often becomes *h* in the dialect of Taitoq and *š* in that of the Awellmmiden. Probably the northern *z* is earlier than the southern *š*, *h*.

#### COMPARISON BETWEEN CANARIAN AND BERBER WORDS

In dealing with the Canarian words I have divided them into three classes: —

Class I comprises words nearly all of which are thoroughly Berber in form and meaning.

Class II contains words which are doubtfully related to Berber, though some of them seem to show an identity of Canarian and Berber grammatical and verbal forms.

Class III contains a long list of Canarian words which appear to be inexplicable by modern Berber. Some few are probably of Arabic origin, and in others the text is no doubt corrupt. But a residue remains which, judging from the meaning, may belong to the old civilization of the natives.

It should be recognized from the start that in all the islands words are found containing the non-Berber sound of *p*. In four of the islands these *p*-words are confined to place and proper names; but in Lanzarote, the Grand Canary, and Tenerife they occur in the vocabulary of common nouns. It does not, however, necessarily follow, that the words of Classes II and III may not represent an older stage of Berber, such as Proto-Libyan, though they cannot strictly speaking be termed Berber. That is a question for future consideration.<sup>3</sup>

<sup>3</sup> Abbreviations used below, §§1-16:

Ar. = Arabic	Aw. = Awellmmiden
B. Men. = Beni Menacer	G. Nef. = Gebel Nefusa
Ghdam. = Ghadames.	Gur. = Gurara
M. = Moroccan of Demnat	Mz. = Mzab
Q. = Qabyle	S. Ar. = Southern Arabic
Shil. = Shilha	Sp. = Spanish
Tait. = Taitoq	Tam. = Tamošeg
W. = Wargla	Zen. = Zenaga

## Class I. The Berber element in Canarian

## §1. Lanzaroté and Fuerteventura.

AHO (Gal.), 'milk'.

(Shil.) agu, ago, 'sour milk'.

(Tait.) ah, 'milk'.

(Q.) .agi, 'sour milk'.

But if *aho* has lost an *f*, preserved in Tenerifan *ahof* (§3), then *h* = *g* in *ogofoi*, *agfoi*.

ESEQUENES (Gal. 1), EFEQUENES (Viera), EFEGUEN (Gal. 2), 'houses where they made their devotions'. The first two are doubly plural, a native plural in *-n* and a Spanish in *-s*. *Eseque* seems to be the same as *azeca*, for in old Spanish *s* between two vowels had the sound of *z*. But if *efeguen* is the better reading, cf. (Tait.) ft, 'a shelter', pl. *ifawen*, which might give rise to *ifa(g)en*, 'shelters'.

AZECA (Bory), 'a wall'.

(Ghdam.) tazeqqa, 'wall'.

(Tait.) tahaqqa, 'a small house'.

(B. Men.) seqqa, 'house'.

(Q.) tasaqa, 'small house'.

TEMOSSEN (Gal. 1), TAMOSEN (Viera), TEMASEN (Gal. 2), 'barley'.

(M.) tumzin, 'barley'.

(Tait.) timesin, 'barley'.

Cf. (Hamitic Galla) miden, 'grain'.

TESSESSES (Gal. 1), TEZZESSES (Gal. 2), TEZESES (Viera), 'sticks used as weapons'. The final *-s* is the Spanish plural.

(Ghdam.) azzazs, 'a picket, a pointed stake'.

YLFE (Gal. 1), 'a hog'.

(Shil.) ilf, 'a hog'.

(Q.) ilef, 'a hog'.

## §2. The Grand Canary.

AHO (Gal. 1), see *aho*, §1.

AMODAGAS (Gal. 1), 'pointed spears'.

(Tait.) madaḡ, 'a pole'. In Spanish loan words from Arabic, *ḡ* is always rendered by *g*.

ARCHORMASE (Gal. 2), AREHORMAZE (Gal. 1), ARAHORMAZE (Viera), 'green figs'. The first *r* is an inorganic insertion.

(Shil.) ikkurmas (pl.), 'unripe figs'.

(Q.) akurbuz, 'a bad fig'.

GAMA (Gal. 2), 'enough!'

(Q.) iguma, 'it is enough'.

TAHARENEMEN (Viera, Bory), 'dried figs'. The final *-emen* is probably an error. It seems to occur again in *echemen*, §5.

(Tait.) ahar, 'a fig', pl. *aharen*.

(Shil.) tazart, 'dried figs'.

TAHATAN (Gal. 1), 'ewes', TAHAXAN (Viera), TAHARAN (Gal. 2), 'sheep'.

(Tait.) tihatṭin (pl. of tiheli), 'a lamb of the hairy breed of sheep'.

(Aw.) tihaten (pl. of teḡsi), 'hairy sheep'.

TEHAUNENEN (Gal.), 'ripe or sweet figs'. This appears to be a corrupt form of *taharenemen*.

## §3. Tenerife.

AGUERE (Gal.), 'a lake', the old name of Laguna.

(Tam.) egeriu, 'sea, large river'.

AHOF (Gal.), 'milk'.

(Shil.) agofai, 'fresh milk'.

(Tait.) aḥ kefai, 'fresh milk'.

(Q.) aifki, ogfoi, 'milk'.

AHOREN (Gal. 1, Viera), 'roasted barley meal'.

(M.) aguren, 'meal'.

(Q.) uren, 'meal'.

AXA (Gal. 1, Viera), ARA (Gal. 2), 'a goat'.

(Shil.) agad, 'he-goat'.

(Kel Ui) aḥḥa, 'sheep'.

Cf. Hausa ára-ára, 'the hairy sheep of the Sudan'.

CHAMATO (Gal.), 'a woman'.

(Tam.) tamet, tamettut, 'a woman'.

(M.) tamettut, 'a woman'.

GUANCHE (Nuñez), BINCHENI (Gal. 1), 'a Tenerifan'; VINCHENI (Gal. 2), 'natives of Tenerife'. The first word is shortened out of (*g*)*wa-n-Chinet*, 'he of Chinet (Tenerife)'. The other two forms are from *ui-n-Chinet*: *ui* is the plural of *wa*, 'he, this, he who'. In Spanish *ui* might be written *bi*, *vi*. For *Chinet*, *Chineche*. Cf.:—

(Zen.) tiniḥ, 'a grotto, cave'.

(G. Nef.) tanut, the diminutive of *anu*, 'a pit', perhaps with reference to the crater at the summit of the Peak.

IRICHEN (Gal., Viera), TRIGUEN for IRIGUEN (Gal. 2), 'wheat'.

(Q., M.) irden (pl.), 'wheat'.

(Tait.) ired, (pl.) *irdanen*, 'wheat'.

MENCEY (Espin., Gal., Viera), MENSEY (Gal. 2), 'king'.

(Q.) amenzu, 'the eldest of the family', from *enz*, 'to arrive early'.

OCHE (Gal., Viera), 'butter'.

(M.) udi, 'butter, fat'.

(Shil.) ūḍi, 'butter, fat'.

(Zen.) uḍi, 'butter'.

(Gur.) uḡi, 'fat'.

TAGOROR (Espin.), 'a place of assembly'. A *tagoror* was usually placed before every house, great or small, and there the folk assembled for conversation.

(Shil.) agrur, tágrurt, 'a yard, precinct, courtyard'.

(Q.) tagrurt, 'a small enclosure for goats'.

JAMO (Gal. 1), TANO (Viera), TARO, (Gal. 2), 'barley'. The last form is a misreading of the second and this is a mistake for *tamo*, cf. *temossen*, §1.

XERCO (Viana), 'boot, shoe'. With this Basset compares (Rlf) aharkus, 'boot, shoe'. Viera and Bory give the word as *zercos*.

(Goméra.)

Galindo gives no word that can be explained by Berber. But *taginaste*, 'a tree from the root of which a red dye was obtained', is thoroughly Berber in form. Glas compares it with (Shil.) taginast, 'a palm tree', but I have not met with the word elsewhere.

## §4. Palma.

ADEYAHAMEN (Gal. 1), ADEYHAMEN (Gal. 2), ADEKAMEN (Viera), 'under water, submerged'. A place name. The *h* is inserted to separate the vowels.

(M.) adda, eddau, 'under'.

(Tam., Q., M.) aman, 'water'.

(Zen.) amen, 'water'.

ACERÓ (Gal. 1), 'a strong place'.

(Q.) azuran, 'strong'.

AZUQUAHE (Gal. 1), AZUQUACHE (Viera), 'brown'.

(Shil.) azoggag, 'red'.

(Q.) azugguag, 'red'.

Cf. (Hamitic Somali) assagog, 'red'.

GARAHAGUA (Gal. 1, Cubas). A proper name. Galindo states that he received the name because at his birth so many dogs surrounded his mother, and because *haguayan* means 'dog'. In this case *gara* might be (M., Q.) gar, 'between, among', (Zen.) gari, 'between'. But Cubas explains the word by 'vile as a dog', as the man was of a very bad disposition. In this case cf. (M.) gar, 'vile', one of the very few adjectives in Berber which precede the noun. For *haguayan* see §9.

GUIRHE (Escud.), GUIRRE (Gal.), 'crow, raven'. The *h* in the first word may be an *f*, which is liable to become *h* in Spanish transcriptions.

(Q.) agerfiu, 'raven'.

(Q.) tagerfa, 'crow'.

MAYANTIGO (Gal.), 'a bit of heaven' or 'like heaven'. A proper name given to a man on account of his gentle behavior. For the last two syllables of the word cf. *tigo* below.

(M.) man, 'like'.

(Shil.) taggut, 'cloud'.

TAGRAGIGO (Gal. 2), TAGRAGITO (Gal. 1), 'a hot spring of mineral water'.

(Tam.) tahrāhiq, 'effervescence, agitation'.

(Tait.) taharahaq, 'tumult'. The final *q* in these two words is a contraction of *qt*, so that the first word is for *tahrāhagt*.

TEDOTE (Gal.), 'a hill'.

(M.) tādaut, 'shoulder, back'.

TEGUEVITE (Gal. 1, Viera), TEGUIBITE (Gal. 2), 'flesh of sheep or goat', 'she-goat' (Viera), TEGUEVIT (Bory), 'a goat'. The feminine of (M.) igbi, 'he-goat' would be \**tagbit*, though it does not seem to be used. If the word connotes flesh, cf. (Tait.) tigbaten, 'a cut' from *egbet*, 'to cut'.

TIGO (Gal. 1, Viera), TIGOT, pl. TIGOTAN (Gal. 2) 'cloud'.

(Shil.) taggut, 'cloud, fog', pl. tiggûtin.

(Q.) tignut, 'sky, heaven'. The plural, however, is *tignau*.

YGUIDA Y IGUAN IDAFE, QUE GERTE Y GUANTARO (Gal. 1), 'Idafe says he will fall, give him what thou carriest and he will not fall'. The god Idae resided in a very high pillar-like rock of over six hundred feet, which the natives were continually afraid would fall upon them. When they killed a sheep or a goat, they roasted a piece and sent it by two men as an offering to the rock divinity. As they went along they sang the above words. Cf. (Tam.) igged da iganna Idae, kai ger-t a(g)wa nkerah, 'he (will) jump down here says Idae, do thou throw it down what we have'. *Igged* is the 3 sg. of *egged*, 'to jump, to jump down'. *Da* = 'here'. *Iganna* is the 3 sg. habitual form of *en*, 'to say', and means 'says repeatedly'. *Kai* = 'thou'. *Ger-t* is the 2 sg. imperative of *ger*, 'to throw, to cast', and *-t* is the suffixed pronoun for 'it'. *A(g)wa* = 'that which'. *Nkerah* is the 1 pl. of *kerah* 'to have, to get'. I have read *-caro* for *taro* as *c* and *t* are so often confounded, but this is uncertain. The pleonastic use of the pronoun is unusual: cf. (Tait.) tennim-as i ales, 'tell to him to the man'; (Tait.) en-n-as i tim, 'say to him to thy (fem.) father'.



## §5. Ferro.

ACOF (Gal. 1), 'a river'. The *c* must be read *ç* as *asof*.

(Q., M., Shil.) *assif*, 'a river'.

(Mz.) *suf*, 'a river'.

ACULAN (Gal. 2), ACALAN (Viera), 'butter'.

(Q.) *ikil*, 'curds, clotted milk', from *kil*, 'to coagulate'. From this \**ikilen*, 'coagulated', can be formed.

(Tait.) *akeru*, 'curdled milk'.

ACHEMEN (Gal., Viera), 'milk'.

(Zen.) *uj*, 'milk'.

The *-emen* perhaps is the result of the following closely after of *ahemon*, 'water', or is a misformed plural, analogous to (Aw.) *ehawen*, 'all sorts of milk', the pl. of *ah*. But cf. (Shil.) *ejeben*, 'cheese', from (Ar.) *gibna*, 'cheese'.

AHEMON (Gal.), 'water'.

*Aman*, 'water', in all Berber dialects.

Cf. (M.) *aman*, 'here is water'.

ESERO (Gal.), 'strong'. It is the same word as *acerô*, §4.

MULAN (Gal. 1), 'butter', is no doubt a misreading of *aculan* as they are found in different editions of Galindo.

Correspondence between Canarian and Berber consonants. From an analysis of the words given in Class I.

Canarian	Berber	No. of words	Canarian	Berber	No. of words	Canarian	Berber	No. of words
c (before a, u)	q, k,	2	h	f	1	t	t	1
c (before e, i)	z, ç	2	l	l	2	u	b	1
d	d	4	m	m	8	x	ğ	1
f	f	3	n	n	3	x	h	1
g	g	8	q	gg	1	z	z	3
g	ğ	1	q	k	1	gua	wa	1
g	h	1	r	r	12	rch	kk	1
g	q	2	s	z	2	ch	t	1
h	g	2	s	ç	1	ch	d, ğ	1
h	ğ	2	t	t	7	ch	j	1
h	h(Tait.)	2						

## Class II. Words doubtfully related to Berber

## §6. Lanzarote and Fuerteventura.

ORDUHI (Bory), 'a court, a courtyard'.

(Q., M., Shil.) *urti*, 'a garden', and reading *h* as *n*, *urtinu*, 'my garden'.

TAFFLAQUE (Gal. 2), TAFIAGUE (Gal. 1), TAFRIGUE (Viera), 'thin flakes of keen-edged flint, used as knives'.

(Q.) *tafrut*, 'an old knife'.

(Zen.) *teferid*, 'a dagger'.

## §7. Grand Canary.

ADARGOMA (Escud., Gal.), 'shoulders of rock'. The name of a man with very broad shoulders. If this is a contraction of \**Adarargoma* it is capable of explanation. For *adar*-, cf. (Tait.) *azir*, (Aw.) *ezar*,

(Shil.) *igär*, 'shoulder, the slope of a mountain'. (Tait.) *z* = (Canarian) *d* in *acodetti*, 'four'; (Tait.) *okkozet*, 'four'. Also, cf. (Ar.) *zahr*, *ḍahr*, 'a back'. For *argoma* cf. (Zen.) *eurgom*, 'mountain', (Ghdam.) *akuram*, (G. Nef.) *ukrim*, 'the back', (Tait.) *takrumt*, 'the fist' with reference to the knuckles. The meaning would then be '(his) shoulder (is) a mountain (for breadth)'. Cubas explains the word by *adarg*, 'shoulder' and *oma*, 'rock'. From a Berber point of view this explanation is untenable.

ALCORAN, ACORAN (Escud., Gal.), 'God', i. e. 'the god of the sky'. Cf. (Q.) *aquran*, *aqoran*, 'hard, dry', with reference to the firmament, or 'stern' with reference to his character in withholding rain when it was wanted. This *l* is possibly an insertion parallel with (Sp.) *alcalde*, 'a judge', from (Ar.) *alqaḍi*, 'a judge', and (Sp.), *albayalde*, 'white lead' from (Ar.) *al baiyaḍ*, 'white lead'.

ALMENE CORAN (Escud.), 'save me, O God'. As the words occur a few lines below a passage describing how the natives prayed for rain it may perhaps be read *Aman Acoran*, 'water, O God', the *l* being again intrusive.

ALMOGAREN (Escud., Gal.), ALMOGARON (Viera), 'holy house'. The name of a high cliff where religious women dwelt. If the *l* is not a mistake, cf. (Zen., Mz.) *al*, 'a place', (Shil.) *tala*, 'a hill' (M.) *talat*, 'ravine, precipice', and (Q.) *amoqoran*, 'great'. The meaning would therefore be 'the great place, great precipice'.

ARABISEN (Escud.), ARABISENEN (Gal. 2), 'the savage'. The name given to a man on account of his ugliness and misshapen body.

(Tam.) *ilabasen*, 'hideous' from *elabas*, 'to be ugly'.

ARIDAMEN (Gal. 1), ARIDAMAN (Gal. 2, Viera), 'goats'. Here *aridam* may have been written for *ariden* and the correction made without erasing the *m*.

(Shil.) *agaḍ*, 'he goat', pl. *igāḍen*.

(Tait.) *igid*, 'kid', pl. *igaiden*.

For the *m* cf. (Tam.) *ikulamen* (pl.), 'hairy sheep', (Aw.) *tekindeman* (pl.), 'wooly sheep'. As *l* and *d* sometimes interchange dialectically a common ground form may have been *K D M* or *K N D M*, and, with a further mutation, *R D M* or *Ġ D M*.

BAROT (Castillo), 'a lance of pine'. This is possibly a variant of the (Tenirifan) *banot* with the same meaning. But this form can be equated with—

(Tait.) *taburit*, 'a thick stick'.

(Aw.) *taborit*, 'a thick stick'.

(M.) *tagurit*, 'a thick stick'.

DORAMAS (Gal.), 'nostrils'. The name of a man, so called on account of the uncommon width of his nostrils. Here we may suspect a misunderstanding in that the word may mean 'teeth'. *Doramas* is also the name of a mountain.

(Q.) *tugmest*, pl. *tugmas*, 'tooth, teeth'.

(Aw.) *tagumest*, pl. *tigamas*, 'tooth, teeth'.

GUAN (Viera?, Chil), 'a son', 'a person' (Nuñez).

(Tait.) (g)uan, 'who is of'.

MAJIDO (Cedeño), 'a wooden sword', MAGADO (Gal., Viera), 'a pole, a knob-stick'.

(Q.) *amguḍ*, 'a shoot, a branch'.

(Q.) *ṣār tagida*, 'branch'.

(Tam.) *tageda*, 'a javelin'.

(Zen.) *tajod*, 'a saber'.

(M.) *tigejda*, 'a picket, stake, spar'.

TAGUACEN (Gal. 2), TAQAZEN (Viera), TAGUASEM (Gal. 1), 'hogs'. With metathesis of the two consonants, cf.—

(Zen.) *ajig*, from \**azig* which would be the masculine form,

(Hausa) *gádo*, 'a hog'.

TAMOGANTE EN ACORAN (Escud., Gal. 1), 'house of God', where the religious women dwelt. Perhaps for *tamogrant en acoran* with the word for 'house', (Tam.) *tağahamt*, (M.) *tigeme*, understood. *Tamogrant* is the feminine form of *amoqran*, 'great', to agree with 'house' which is feminine. The meaning therefore would be 'the great (house) of God'. In (Shil.) *tamgant* means 'a whore' from *gän*, 'to lie down, to sleep'. So perhaps the M-form of the verb *gän* may also have had the signification of 'a place to sleep in, a house'.

TAMARAGUA, SANŞOFÉ (Cubas), 'here comes a guest, be welcome'. Cf. (M.) *tamegra*, '(here is) a feast, a fête'. *Sens*, 'make (thyself) lie down'. This is the 2 sg. imperative of *sens*, the factive of *ens*, 'to lie down, to pass the night'; *s*, 'towards'. (Aw.) *efe*, (Ghdam.) *ufa*, 'the fire'. In Wargla *sens* is the verb used in giving invitations to dinner, to a fête, etc.

### §8. Tenerife.

All these words, except perhaps the last, belong to the P-language.

ACHIC (Viana?, Chil.), 'a son, a descendant of'. If the final *c* = *s*, cf.—

(Q.) *aqš-is*, 'his lad, young man'.

(Zen.) *ogzi-s*, 'his son'.

ACHICUCA (Espin., Gal.), 'son by the first wife', regarded as illegitimate after the father's second marriage. Viana gives *guahuco*, and Nuñez *aguahuco* as the name of a bastard brother.

(Zen.) *ogzi*, 'son'.

(Q.) *aqš*, 'lad, young man'.

ACHIMENSEI (Espin.), ACHIMENSEY (Gal. 1), ARCHIMENSEY (Viana), 'hidalgos, nobles'. For *mensey* cf. (Q.) *amenzu*, 'the eldest of the family, the eldest brother', from (M.) *anz*, *enz*, 'to arrive early'. The *archi-* of Viana, who alone uses the form, may be an error, as in *archormase*, §2.

ACHANÓ (Viera), 'year'. Basset compares it with (Aw.) *aošinna*, (Tait.) *agenna*, 'sky'. As the word also means 'rain', it might be used perhaps in the sense of 'rainy season, year'. But cf. (Tait., Aw.) *tenf*, 'this year'. Espinosa says that in Tenerife they reckoned time by lunations.

ACHAMAN (Espin., Nuñez), 'God'; ATAMAN (Gal., Viera), 'heaven, sky'; ACAMAN (Cubas), 'the sun'. These three words are variants, but it is impossible to decide which represents the true pronunciation, though the first is the oldest recorded. There is no single Berber word meaning 'heaven, sky, sun', with which any of these words could be compared. Assuming the variants are compounds, *ag aman* might be suggested. The *g* is usually hard, but in a Moroccan dialect it becomes *j*. (Tait.) *eg-ma*, 'brothers', becomes *ej-ma*. In (Tait.) *ag*, 'son' is sometimes used in a non-literal sense, e. g. *ag agarem*, 'a townsman' (son of a town); *ag agema*, 'a nomad' (son of the desert).

In Qabyle and in the dialects of Morocco, *bab*, *bu*, words of Arabic origin, are used in the sense of 'possessor of, master of'.—Cf. *bab ul*, 'a courageous man' (*ul*, 'heart'), *bu er-riš*, 'plumage' (possessing feathers), etc. To form the plural in filiations, *aith*, *ath*, 'sons', is very commonly used. Hence it may be supposed that, before the adoption of the Arabic form, *ag*, 'son', was used in the sense of 'possessor of'. In that case *ag aman*, *aj aman* would have the meaning of 'possessor of water', a term quite applicable to a god of the sky. But this explanation is quite uncertain and the three Canarian variants may be each a single word. *Achaman* occurs, as the reader will observe, in two of the five formulas given below.

### Formulas.

(Of the following formulas, the first four are from Espinosa, and the fifth from Galindo.)

1. ACHGUAYAXERAX [ACHGUAYERXERAN (Gal. 1), ACHGUAYERGENEN (Gal. 2)], ACHORON, ACHAMAN, 'the sustainer of heaven and earth'.

2. ACHAHURAHAN [ACHUHURAJAN (Viana)], ACHAHUCANAC, ACHGUAYAXERAX [ACGUAYAXERAX (Gal. 1)], 'the great, the sublime, he that sustains all things.'

3. ACHMAYEX [ATMAYCE (Gal. 1)], GUAYAXERAX, ACHORON, ACHAMAM, 'the mother of the sustainer of heaven and earth'.

4. ALZANXIQUIAN ABCANABAC [ABCANAHAC], XERAX, 'the place of union of the son of the great'.

5. ATGUAYCHAFUNATAMAN, 'he who holds or possesses the sky'.

The most intelligible of these formulas is the last. Reading *ch* as *t*, as in *chamato*, §3, cf. (Tam.) (*g*)*wa ittefen atuman*, or, using the habitual form *ittefen*, (Shil.) *itattafen*, an expression meaning 'he who habitually holds or supports *atuman* (the sky)'. The verb is the 3 sg. habitual and participial form of *ettef*, 'to grasp, to hold, to keep'. But the *at-*, *ac-*, *ach-* remains unexplained.

The *ach-* in *Achguayaxerax* is separable, for it is omitted in the third formula, and also by Viana and Galindo. The *achahucanac* of the second formula is cited by Viana as *hucanech*. Perhaps it had very little meaning, for in the third formula *achmayex* is translated 'the mother'. This was one of the proofs adduced by Lord Bute in support of his belief that *ach* was the definite article. But in this instance the article is necessary in Spanish or the word 'mother' would be in the vocative.

This obscure prefix *at-*, *ac-*, *ach-* may be a demonstrative particle analogous with the (Q.) *d*, 'it, he is', (*d nek ag moqqoren fellak*, 'it is I who am bigger than thee'; *guri aqjun d ammallal*, 'I have a white dog', literally 'I have a dog, it is white'). This *d* is the same as that found in (Tam., Q.) *da*, 'here', (Shil.) *d*, 'here'; (M.) *da*, 'this', (Shil.) *ad*, 'this', (Zen.) *ad*, it, 'this'. These words carry with them the verb 'is' understood. *Achmayex* would therefore mean 'it is the mother'.

But it may mean more, for in Berber 'the mother of so and so' must be rendered 'his or her mother of so and so'. (Tait.) *imma-s n Maskeri*, 'the mother, (lit. his mother) of Masqueray'; (Q.) *imma-s burgaz agi*, 'his mother of this man'. In *achmayex* (*achmayce*), to be read *mayeš*, *maise*, we may find the suffix *-s*, 'his'. The word for 'mother' is here and in (Tam.) *ma*. The suffix in Tenerife may have been *-is* with a *-y-* inserted between the two vowels. But the sign of the genitive *n* has been omitted after *-mayex*, *-mayce*.

In the first three formulas of Espinosa a verbal form is apparent in *achguayaxerax* which is translated 'sustainer, he that sustains'. In Berber 'sustainer' would be rendered by 'he who sustains'. The verb would be put in the 3 sg. participial or relative form, and be governed by a relative pronoun (*g*)*wa*.

Neglecting *ach-*, the *guayaxerax*, if the translation is correct, means 'he who sustains'. There is no verb in Berber exactly like *ašeraš* or *ašeraḥ* with the above meaning, though (Tait.) *gerah*, 'to keep, to guard, to lock up' is not very far removed. From the Berber point of view, *yaxerax* is incomplete for it ought to end with *-n*. Fortunately this termination can be recovered from the variant *guayexzeran* of Galindo. By the transposition of *r* and *x*, we get *-exzeran* and as *x* and *r* are so often confounded the last *r* can be read *x* with the resultant *exerexan*. *Guayaxerax* then appears as a mutilated form of *guayaxeraxan* and in point of form is on all fours with (Tait.) *iegerahen*, 'he who keeps'. Galindo translates *guayaxeraxi*, 'he who holds or possesses the world' and *chaxiraxi*, 'she who carries him that holds or possesses the world'. The latter name was given to the Virgin Mary when the natives became acquainted with her. Both of these forms are evidently incomplete and abbreviated. If the *ch* in *chaxiraxi* can be read as *t*, as in *chamato*, §3, then *taxiraxi* is probably shortened from *ta-taxiraxi(t)* and is the feminine of (*g*)*wa-yaxeraxi(n)*. In formula 2, *achahurahan* seems to mean 'the great', and with it may be compared (Tait.) *ihuharen*, 'very large, wide'. The word may have reference to the spaciousness of the sky.

BEÑESMER (Gal. 1), VENESMER (Gal. 2), VEÑESMEN (Viera), 'August'. For *-esmer*, cf. (Tait.) *asamar*, 'intense sunlight'; (Tait.) *iwet n asamar*, 'a sunstroke', (Tait.) *isisammer*, 'he who warms himself in the sun'. So *veñesmer* may stand for *win n asamar*, 'those (days) of intense sunlight or heat'. I read *ñ* as *nn*, for in all Sp. loan words from Ar. a double *n* becomes *ñ*.

### §9. Palma.

ADAGO (Gal.), 'goat's milk', 'a goat' (Viera), with metathesis of *d* and *g*, cf.—

(Shil.) *agad*, 'he-goat'.

Possibly (M.) *ad*, 'here is', (Shil.) *agu*, 'milk'.

ATINAVIVA (Gal. 2), ATINAVINA (Gal. 1), ATTIMARIVA (Bory), 'hogs'. If the first is the best reading cf. (Tait.) tin n ifaffen, 'those (fem.) of the teats'. An analogous form is seen in (W.) tingi [for \*tin-agi], 'those of milk' i. e. 'the teats'. In Shil. tin is pronounced *hlin* which might give rise to initial *a*. By combining the variants we might get \**atamarina*, with which cf.—

(Shil.) murrān, pl. *idmurrān*, 'wild swine'.

CELA (Bory), 'a month'.

Reading *t* for *c* cf. (Tait.) tellit 'new moon, month'.

HAGUAYAN (Gal. 1, Viera), AGUYAN (Gal. 2), 'a dog'.

(Q.) agjun, 'a dog'.

(B. Men.) agzin, 'a dog'.

(Shil.) iksin, 'a dog'.

This is evidently an old word, cf. (Hamitic Bilin) gidin, 'a dog', pl. *gjin*.

MOCA (Gal.), 'a pole hardened in the fire and used as a weapon'. See *majido*, §7.

TABERCORADE (Viera, Bory), TEBERCORADE (Gal. 2), TEBEXCORADE (Gal. 1), 'good water'. It exuded from the walls of a cave which had to be entered backwards on all fours. The word is feminine and final *-de* represents *-t*. Reading *n* for the first *r*, cf. (Tait., Aw.) abankor, 'a shallow well', (Ahoggar) abenkur, 'a point where water is so near the surface that it can be obtained by digging a few decimeters'. The feminine forms would be \**tabenkurt*, \**tabankort*. As the narrow passage into the cave had to be entered backwards, it probably sloped downwards and in that respect could be likened to a well.<sup>4</sup>

TENERIFE, THENERIFE (Nuñez), TONERFIS (Bontier). The name said to have been given to that island by the natives of Palma. Cf. (Q.) erfu, 'to get angry', urrif, 'anger', (Shil.) irifi, 'thirst, heat'. *Tenerife* may therefore be explained as *ti-n-iri fi* or *ta-n-urrif*, '(the land) of heat or of anger', with reference to the volcano of the Peak of Tenerife. To the earlier Europeans who visited the archipelago it was known as 'the island of hell'.

VACAGUAIRE, VACAGUARE (Gal. 1, 2), 'I wish to die'. Reading *t* for *c*, cf. (Tait.) bat, 'he is dead, it is all up', *a(g)wa*, 'is what', *erij*, 'I wish'. (Tait.) aba, 'it is finished' is often used for *immut*, 'he is dead'. And *abat*, 'to finish absolutely' may be shortened to *bat*, 'he is dead'.

## §10. Ferro.

AGUAMANES pl. (Gal.), AGUAMAMES (Viera), AGUANAMES (Bory), 'roots of fern, roasted and soaked in butter'. Cf. (Q., M.) aganim, 'a reed', pl. *iganimin* and *igunam*; (Q.) aemma, pl. *igmain*, 'vegetables'. *Aguaman* has likeness with (Sp.) gamon, 'the asphodel', pl. *gamones*, a plant with edible roots which grows in the Canary Islands. In Ferro there is another word for fern or fern roots, *haran*, §16. So perhaps *aguaman* really means 'asphodel', though the Shil. word for it is *inegri*.

FUBAQUE (Gal. 2), JUBAQUE (Gal. 1, Viera), 'a fat sheep'. Cf. (Tam.) abagug, 'a one year old lamb', (Tait.) abaguḡ, 'a castrated sheep'. In old Spanish *j* = *ḡ* and as *que* and *gue* are often confounded by copyists, *jubaque* may be altered in sound to *ḡubag* and the comparison becomes more likely.

GUATATIBOA (Gal.), GUATATIVOA (Viera), GUATIVOA (Bory), 'a feast at which they killed one or two very fat lambs'. Here (g)wa may be an exclamation. Cf. (Shil.) aiwa tatt tifu, 'come along! Eat flesh!' (Tam.) aiw, (M., Shil.) aiwa, iwa, is an exclamation meaning 'come along!' (Arabic origin?); (Tam.) tatt is 2 sg. imperative and habitual form of *eks*, 'to eat', (Shil.) tifi, tifu, 'flesh' or it may stand for (g)wa itatt tifu, 'this one eats flesh' or (g)wa titeti tifu, 'this is eating flesh'. The Moors of the Senegal sometimes form parties each member of which contributes an ox. These oxen they kill and eat one by one. Such fêtes are called 'parties to eat flesh'.<sup>5</sup>

<sup>4</sup> [There here lurks another possibility — viz. that the cave was entered backward for religious reasons. Ed.]

<sup>5</sup> R. Caillié, *Travels through Central Africa to Timbuctoo, etc.*, London, 1830, vol. 1, p. 89.

*Class III. Words that seem inexplicable by Berber*

## §11. Lanzarote and Fuerteventura.

AALA (Bory), 'water'. No doubt a misreading.

AALAMON (Bory), 'pure water'. Here an *h* has been misread *l*. It is evidently the *ahemon* of Galindo, §5.

ALIO (Bory), 'the sun'. See *zeloi*, §15.

ALTAHA (Viera), ALTAHAY (Gal. 1), ANTHAA, ALTAHA (Bory), 'a valiant man'.

ALTHOS (Bory), 'god'. Perhaps a corruption of *altaha*.

CEL (Bory), 'the moon'. See *cela*, §9.

CELA (Bory), 'a month'. See *cela* §9.

ENAC (Bory), 'night, evening'.

FE (Bory), 'the crescent of the moon'.

(Tait.) afa 'light'.

GAMBUESA (Viera?, Chil.), 'a palisaded enclosure in which flocks were shut up in order to collect their dung'.

GAMBUEZA (Cubas), 'chasing and capturing wild goats'.

GOPIO (Espin.), 'barley meal made with milk into a sort of porridge'. Cf. (Ar.) 'afta, 'a kind of broth'. *Gofio* might come from *gofito* as the Berbers replace *Ġ* by *Ġ* which is always rendered by *g* in Spanish loan words from Arabic. The Spaniards were apt to drop a *d* or *t* between two vowels.

GUAMF (Bory), 'a man'. Probably a mistake for *guan*, which Nuñez and others translated by 'man, person'. For *guan* (see *guan*, §7.)

GUANG (Bory), 'son, boy'. Probably a mistake for *guan*, though in some few dialects, including Zenaga, the sound *n* is occasionally heard.

GUANIL (Gal.), 'a flock of wild goats'.

GUAPIL (Gal.), 'a cap or headdress of skin with three feathers in it'.

MAG (Bory), 'the sun in winter'. See *magec*, §§12, 13.

MAGOS, MAXIOS (Escud.), 'the spirits of the dead'.

MAHO (Gal.), *mazo* (Viera), 'a boot, shoe'.

(Tait.) abohog, 'a boot', *tabohak*, 'old shoe, slipper'.

(Aw.) ebūšege, 'shoe'.

MAHORATA (Viana) for *mazorata*, an old name for Lanzarote and Fuerteventura.

TABITE (Viera), 'a small jar'.

(Q.) taḥabit, 'a jar', from (Ar.) ḥābīlah, 'a large jar'.

TAMARCO (Espin., Gal.), 'a sort of skin shirt'.

(Tait.) abrog, 'a mantle, a haik'.

(Tait.) tabroq, 'a haik'.

(Aw.) āberūk, 'a coarse woolen blanket'.

(Ar.) barqa, 'a veil'.

TARHA (Cedeño), 'a shield'. Cf. (Sp.) tarja, 'a shield'. The islanders had no shields when first known to the Spaniards, but afterwards adopted the idea from their enemies.

TEHUETE (Chil.), 'a small skin bag'.

TITE-ROY-GATRA (Bontier). The native name of Lanzarote.

TOPIO (Viera), 'a pan with small projecting handle'.

TOZIO (Bory), a generic name for dishes, plates, etc.

(Siwah) taza, 'plate'.

(W.) tziwa, 'a plate'.

(Ar.) ṭāṣah, 'a bowl, a vase'.

TUCANA (Bory), 'daughter, girl'. See *cucaha*, §13.  
 FORE TRONCQUEVAY (Bontier), 'ah! infamous traitor'.

## §12. Grand Canary.

ALCORAC (Viera, Bory), 'God'. According to Escudero, 'God' was called *Alcoran* in the Grand Canary, so *Alcorac* may be a mistake. See §7.

ALMOGAROT (Bory), 'adoration'. Doubtless an error founded on *almogaren*, 'holy house, or house of prayer', §7, sometimes rendered in Spanish by *adoratorio*.

ATACAYCATE (Gal. 1), ATACAYTE (Gal. 2) 'great heart'. A proper name for a man of great corpulence. See below *tacaycate*.

AZAMOTAN (Gal. 1), ASAMOTAN (Gal. 2), ARAMOTAN (Cubas), ARAMOTANOQUE (Viera), 'barley'. Berthelot, quoting Ritter, gives *azamitan* as a Berber word. Rohlfs gives the Moroccan *sesometa*, probably for *ssometa*, 'roasted barley, coarsely ground and eaten with salt and argan or olive oil'. Cf. (Tait.) *ihamaraten*, (Aw.) *isemaraten*, 'grains, seeds'; (Tait.) *ihamaraten n egil*, 'grains of meal'.

CARIANAS (Gal.), 'baskets of rushes or palm leaves'. The word shows a native plural in *-n* with a Spanish plural in *-as*.

CUNA (Bory), 'a dog'. For Tenerife he gives *cuncha* where Galindo has *cancha*, 'a small dog'. The word is doubtful.

FAYA (Gal., Chil.), 'a powerful or important man'. A proper name. Castillo gives the compound *Fayahuracan* as the name of a captain.

FAICAG (Gal.), FAISAGE (Cubas), FAICANES (Escud.), 'priests who ranked after the king'.

GAIRE (Gal.), GUAIRE (Viera), 'a councilor'.

GÁNIGO, 'a deep earthenware dish'. Cf. (Tam.) *gánnek*, 'a bucket'.

GAVIOTA, GUAYOT, GALIOT (Escud.), 'a demon who lived in the bowels of the earth'.

GUAPILETE (Cubas), 'a girdle of rushes worn round the waist'.

HUERGELE (Gal., Chil), any covering for the feet. The explanation may be erroneous: cf. (Sp.) *zaragüeles*, 'wide trousers or breeches' from (Ar.) *sirwâl*, 'wide trousers'.

LIA (Bory), 'the sun in summer'. See *zeloi*, §15.

MAGEC (Viana, Nuñez), MAJEC (Cubas), 'the sun'.

MAG (Bory), 'the winter sun'.

(Tait.) *amagas*, 'guardian, keeper' from *agez*, 'to watch over, preserve'.

MAGUADAS, MAGUAS, MARIMAGUADAS (Cedeño), MAGADAS (Gal.), HARIMAGUADAS (Viana), girls and women from the age of fourteen to thirty years who lived in houses and caves until they were married. They only went out on special occasions to take part in ceremonies, and men were not allowed to speak to them on pain of death. The form *maguad* seems to have some relation to (Tait.) *ama(g)wad*, pl. *ima(g)waden*, 'nubile, fit for marriage'. But it is masculine and not feminine as the sense requires.

MARONA (Escud.), TAMARONONA (Viera, Bory), TAMAZONONA (Gal.), 'flesh fried in fat'.

MASIEGA (Gal., Chil), 'thatch of straw'. If it really meant the poles that supported the thatch it might be a masculine form of *tomasaque*, §16.

PUNAPAL (Cedeño), the eldest son by the first wife of a noble.

SABOR (Gal.), a council consisting of twelve members.

TACAYCATE (Gal. 1), TAYCAITE (Gal. 2), 'misshapen, horrible'. A proper name. As *atacaycate*, *atacayte* is given the meaning of 'great heart', there is evidently some mistake, for they are the same word. A surname of this man was *Arabisen*, §7, 'the savage', a name which can be equated with (Tam.) *ilabasen*, 'hideous'. Consequently 'misshapen, horrible' is a mistranslation of *tacaycate*, which must mean 'great heart, courageous'.

TAMERAN (Gal., Chil), the native name of the Grand Canary.

TAZUFRES (Cedeño), bags of dressed goat skin, sometimes stained an orange color: cf. (Aw.) *tazúfrít*, 'a water skin'.

HAITA, HAITA, DATANA (Cedeño); HAITU CATANAJA (Sosa), 'men! act like good ones'.  
 HAI T'UHU CANTANAJA (Berthelot), 'courage! act like brave (men)'.

### §13. Tenerife.

AHICO (Gal.), a cloak or shirt of skin, the *tamarco* of Lanzarote. Cf. (Shil.) aḥaik, 'a mantle', (Ar.) ḥaik [from ḥak], 'to weave'. As the natives were unacquainted with weaving *ahico* is either of very late introduction into Tenerife or the likeness is fortuitous.

\*ACHICQUITZO, given as *cichicquitzo* by Espinosa and others, a social class corresponding to knights. See *achicuca* § 8.

ACHICAXNA (Espin., Gal. 1, Viera), ACHICARNAY (Gal. 2), the servile or lowest class of the people. AÑEPA, ANEPA (Espin., Gal., Viera), a staff with a flag attached, carried before the king.

ARGUIHON (Gal. 2), ARGUJON (Gal. 1), 'see ships', or 'see a ship'. Said to have been the old name of Santa Cruz. Galindo explains it by *ar*, 'see', and *guihon*, 'a large ship'. Reading *u* as *a*, and *h* as *li*, we get *gailion* for (Sp.) *galion*, 'a galleon, an armed merchant ship'. As the natives had no ships, any word they used would most likely be borrowed from the Spanish. Galleons were much used by the Spaniards in the 16th century for transporting troops and merchandise to America. For *ar* cf. (Shil.) *zer*, 'see'. But as *r* is often written for *x*, especially by Galindo, *r* may be merely an exclamation of astonishment or fear, cf. (M., Shil.) aḥ!, 'ah!'

BANOT (Espin., Gal., Viera), a lance of pine wood hardened by fire. Perhaps a dialectical form of Canarian *barot* with the same meaning, see §7.

BENRIMO (Gal.?, Chil), 'son of a cripple'. Cf. (Q.) *remma*, 'a carcass'.

CHACARQUEM (Espin.), CHACERQUEM (Gal. 1), CHACERQUEN (Gal. 2, Viera), a sort of syrup or honey made from the juice of mocan berries.

CORAN (Gal.), COTAN (Cubas), 'a man'.

CUCAHA (Espin.), ZUCABA (Gal.), ZUCAHA (Viera) ZUCHAHA (Bory), 'a daughter by a divorced wife'. In Galindo the word follows *achicuca*, § 8. Comparing *cuca* with *cucaha*, Bute concluded that *-ha* was a sign of the feminine.

ECHIDE (Viana), 'hell'. The volcanic Peak of Tenerife, now called Teide.

(Q.) *tugedi*, *tigudi*, 'fear'.

(M.) *tauida*, 'fear'.

FE (Espin.), 'a mountain', see below *tener*.

GOFIO (Espin.), see §11.

GUAÑAC (Viera), 'the State, the Republic'.

QUAÑOHT (Viana 2, Viera), GUAÑOHT (Viana 1), 'protection, support', (Sp. *amparo*).

GUANHOT (Bory), 'favor'. No doubt the same word as *guañoht* with a vowel inserted between *h* and *t*, for (Sp.) *amparo* also means 'favor'.

GUAYCAS (Viana), 'stockings, sleeves' (Viera).

HACICHEI (Gal.), HAQUICHEY (Bory), 'peas and beans, beans'.

HAÑA (Gal. 1), ANA (Gal. 2), HARA (Viera, Bory), 'sheep'.

(Ar.) *ganam*, 'a sheep'.

(S. Ar.) *qana*, 'a sheep'.

(Bedja) *and*, 'a sheep'.

Hausa *āra-āra*, 'the long legged hairy sheep of the Sudan'.

HUCANAC (Espin.) HUCANECH (Viana) occurs in Espinosa's formula 2, §8, with the general meaning of 'sublime' or 'omnipotent' (Viana). No doubt it is the same word as *Gugancha*, *Concha*, of Cubas, who describes it as 'a demon who generally appeared as a woolly dog' like the *Tibicenas* of the Grand Canary, §12. Galindo and Viera seem to have inferred from this that *cancha* must mean 'a dog' or 'little dog'. But the inference is possibly wrong, just as it would be a mistake to suppose that the word



*Zeus* means 'a swan' because on a certain occasion that deity assumed that form. In *Zenaga*, *akanek* means 'rain' and the full term *achahucanac* may have had much the same meaning as that suggested for *achaman* in § 8, 'the possessor of water or of rain'. The supreme god of Tenerife was seldom appealed to, according to Espinosa, unless rain was desired. *Hucanac* may perhaps be recognized in the sixth formula of Espinosa, § 8.

ALZANXIQUIAN ABCANABAC [ABCANAHAC] XERAX, 'the place of union of the son of the great one'. Removing the second *ab* as a repetition, *abcanac* remains. Its meaning seems to be 'the great', with reference to the same person as 'the sublime' of the second formula. The word *xerax* has been left untranslated. *Alza* might be equated with (M.) *ansa*, 'a place,' but the text is evidently corrupt and the meaning of the whole remains obscure.

HUAYOTE (Viana), GUAYOTA (Espin., Viera, Bory), 'an evil spirit, the devil'. This is evidently the same as the Canarian *gaviota*, *guayot*, §12.

HUIRMAS (Viana), 'stockings'.

MAGEC (Viana, Bory), 'the sun'. See §12.

QUEBEHI (Espin.), QUEBECHI (Gal.), QUEVEHI (Viera, Bory). The title of the king *par excellence*. In addressing him he was called *quevehiera* (Gal.), 'your highness'.

RESTE (Viana), 'defence, support', (Sp. *amparo*).

SIGOÑE (Viana, Nuñez, Viera), 'a captain'.

SUNTA (Viana), a heavy weapon of war. A misprint in Dr. Chil's work translates the word by "armada de guerra", 'a war fleet'. But Berthelot wrote "arme de guerre". Bute, following Chil, repeated his mistake. Viana is quite clear upon the subject. In one passage he mentions "soldiers all armed with heavy suntas" and in another a man cries out "give me a sunta and a banot".

SUSMAGO (Viana, Gal. 1), a weapon of some sort.

TAMARCOS (Espin.), small shields of dragon wood fastened on their arms. This is a mistake, for in another passage he states that when the natives went into battle they were nearly naked having their *tamarcos* twisted round one arm. See *tamarco*, §11.

TABONA (Espin., Gal. 1, Viera), a dark smooth stone which when sharpened against another becomes like a razor and was used for lancing (Espin.): black stones like flint; by striking one stone against another they made flakes and with these they cut and sacrificed and flayed (Gal.). This black stone was no doubt obsidian, which is occasionally found in Tenerife.

(Tait.) *tahunt*, 'a stone'.

(Aw.) *tahont*, 'a stone'.

(Shil.) *taggunt*, 'a stone'.

TENER (Espin., Viana), 'snow'. Espinosa was told that the word Tenerife was composed of *tener*, 'snow', and *fe*, 'a mountain', in the language of Palma, but Viana claims the word to be *Tenerifan*. In this he was probably wrong: cf. (Tait.) *tiniri*, 'a plain', (Zen.) *tenari*, 'a desert, a forest'. And for *fe*, 'a mountain', cf. (Shil.) *iñf*, (Zen.) *if*, 'a head', also used metaphorically for 'the top of a mountain'. The confusion here is increased since Galindo was told that *thener* meant 'mountain' and *ife*, 'white'.

XAXO (Espin., Viana, Viera), 'a dead body, a mummy'.

ZONFA (Bory), 'navel, hole'.

ZUCASA. See above *cucaha*.

#### *Sentences.*

1. AGOÑE YACORON YÑATZAHANA CHACONAMET (Espin.), 'I swear by the bone from the day in which thou hast made thee great'. Spoken by the nobles at a coronation.

2. ACHORON, NUNHABEC, ZAHONAT RESTE GUAÑAC SAHUT BANOT XERAXE SOTE (Viana), 'I swear by the bone that bore the royal crown to imitate it, guarding all the welfare of the republic'. Spoken by the king.

3. AGOÑEC ACAROM INAC ZAHANA GUAÑOC RESTE MENCEY (Viana), 'I swear by the celebrated day of the coronation to guard our kingdom and the king, thy descendant'. Spoken by the nobles.

4. ZAHANAT GUAYOHEC (Viana), 'I am thy vassal'.
5. ACHI GUAÑOHT [GUAÑOHT (Viana 2, Nuñez)], MENCEY RESTE BENCOM (Viana), '(Long) live Bencom our king and protection'. Spoken by the advanced guard.
6. GUAYAXECHEY OFIAC NASETH [NASEHT (Viana 2)] SAHAÑA (Viana), 'May he live through the rigor of the fates and fortune weigh upon him'. Spoken by the rear guard.
7. ZHUCAR GUAYOC [CHUCAR GUAYEC (Viana 2), GUAYOT (Nuñez)] ARCHIMENSEY RESTE BENCOM, SANET VANDER RELAZ [RELAC (Viana 2, Nuñez)] NACETH ZAHANE (Viana), 'Kill not the noble who is own brother of Bencom and gives himself here to thee as a captive'. Spoken by Tinguaro, brother of Bencom.
8. TANAGA GUAYOCH ARCHIMENSEU NAHAYA DIR HANIDO SAHET [SAHEC (Viana 2)] CHUNGA PELUT, 'The valiant father of the country has died and left the natives orphans'. Spoken by the mourners who lamented Tinguaro's death.

It is now necessary to examine how far these specimens of the Tenerifan P-language are reliable, and whether they contain Berber elements or belong to an unrelated speech. It may first be stated that none of the existing Berber words for, 'swear', 'day', 'bone', 'skull' are apparent in the first three sentences. Nor is the termination of the 1st person sg. *-ġ, -k* to be seen in *agoñe, agoñec*, which from its position ought to mean 'I swear', unless *-c = -k*. This is unlikely, for a final *k* is rendered by *-que* both in Spanish words borrowed from the Arabic and in some of the Canarian words given above.

The translation of the sentences is evidently very loose for in nos. 1, 2, 3 the word *Acoran, Achoran, Acarom*, 'God' is omitted, and in no. 2, *banot*, 'a lance' and *xeraze*, a truncated verb meaning 'to sustain' (§8) are left out. The first four words of sentences 1 and 3 are the same, but the translations 'I swear by the bone from that day', and 'I swear by the celebrated day of thy coronation' are sufficiently different. *Zahanat* seems to mean 'vassal' in no. 4, or 'captive' in no. 7. But there is no trace of either meaning in nos. 1, 2, 3 where the word occurs. Viera explains the *guañac* in no. 2 by 'republic, state', but its position in the sentence hardly supports that suggestion. In no. 3 *guañoc* might have that meaning. But the words *reste* and *mencey* which are, according to Viana, synonymous, are applied to the king and mean 'defence and great protection', the word for 'thy descendant' being omitted. Viera further explains *guañoht* of no. 5 by 'defence, protection'. So in this sentence there are three consecutive words, all meaning 'defence, protection' and the first of them is left untranslated. *Achi-* is used in several compounds, e. g. *achimensey, achicuca, achicazna*, but here it is detached. The whole sentence appears to be senseless and deprived of a verb.

As *c* and *t*, *ch* and *th* are so often found as variants it might be suspected that *reste guañac* of no. 2, and *guañoc reste* of no. 3 are equivalents of *guañoht (mencey) reste* of no. 5. If this is so, *guañoc, guañac*, 'State, Republic' is the same as *guañoht*, 'defence, protection', and is synonymous with *reste, mencey*, 'king'.

It is not known how Espinosa and Viana collected these sentences, whether they copied them from older manuscripts or took down the words from natives. Espinosa has certainly fallen into error in attributing sentence 1 to the king, but he cannot be accused of inventing the words; he gave them in good faith.

With Viana, it is otherwise. He was a poet, using all the license of a medieval poet, who was writing an epic and not a work of exact knowledge. His countrymen of later times placed little belief in his historical facts and accused him of embroidering. In one instance he can be certainly convicted of pure invention. After identifying Capraria, one of the Canary Islands according to Ptolemy, with Ferro, an identification which is quite uncertain, he says that in the language of Ferro, *capraria* meant 'greatness, grandeur'; so too in copying Espinosa's statement that *tener* mean 'snow', and *fe* 'a mountain', he convicts himself of ignorance, for it is certain that *Tenerife* does not mean 'snow mountain'. Espinosa mentions that these words were in the language of Palma, but Viana asserts that they were Tenerifan and that the languages of Palma and Tenerife were different.

As Viana was born in 1578 and published his poem in 1604, even if we suppose that he had begun collecting material for his work at the age of twenty, that would be fully a hundred years after the con-

quest of the Island by the Spaniards. He wrote at a time when the Guanche language was dying out, though it was still spoken at Candelaria on the east coast. Galindo, who published his work in 1632, said that in his time in all the islands Spanish was the only language spoken. Holding this in mind it is difficult to believe that the words in sentences 5 and 6, alleged to have been uttered by the advanced and rear guards of the native kings, could have been handed down for three or four generations. They were said to have been spoken at a review of troops before King Bencom or Bencomo by the advanced and rear guards of some thousand men under Tigayga, a valiant captain. The review ended in feasting, not in a battle. It is a mere incident without the least importance in Viana's epic and can be due only to the imagination of the poet. The analysis given above of sentence 5 bears out this contention. And in sentence 6 it is not at all likely that the rear guard should have used ill-omened words, suggesting that Bencomo might suffer misfortune in the future. But as he had eventually to succumb to the superior forces of the Spaniards, Viana has anticipated his fate by suggesting it in the words attributed to the rear guard.<sup>6</sup>

So too the words spoken by Tinguara, the brother of Bencomo can hardly be genuine, for he was dangerously wounded and ultimately killed by a Spaniard, who would not have understood the Guanche language and have been able to report the words. The truth seems to be that Viana did not know the language, but had picked up a few Guanche words which he strung together without much reference to their meaning to give local color to his poem.

If Espinosa is right in supposing that *agoñe*, *agoñey* meant 'I swear', it may be definitely affirmed that this word and the rest of the sentence are not explicable by Berber. But as he omits to translate the well-known word *Acoron* and attributes the words to the king instead of to the nobles, a doubt is thrown upon the whole translation. In no. 8, the P-word, *pelut*, will be noticed later.

#### §14. Goméra.

GÁNIGO (Gal.), 'an earthenware vessel', see §12.

GOMÉRA (Gal.), the native name of the Island. Glas connected the word with 'Gumeri, a tribe of Africans'. The Gumeri or Gomera are placed by Leo Africanus in northeastern Morocco in what is now the Rif country. The name is preserved in El Peñon de Velez de Gomera in that same district. The great distance that separates the Island from the Rif makes Glas's conjecture doubtful.

MINAJA (Quedenfelt), 'a goat'.

OJIS (Quedenfelt), 'a sheep'. The word is still in use.

TAMARCO (Gal., Viera), see §11.

TAHUYAN (Gal.), a small skirt worn by women. Glas compares it with a (Shil.) *tahuyat*, 'a blanket or cloth', but I have not found the word elsewhere.

TUFA (Quedenfelt), 'a sheep'. The word is still in use.

AJELILES, JUXAQUES AVENTAMARES (Cubas), 'Flee! for they are coming after thee'; AHÉLILES, HUHAQUES ABENTURAMES (Gal., Berth.), 'Escape quickly for he runs after thee'.

#### §15. Palma.

ABORA (Gal.), 'god' who lives in the sky.

AGANEYE (Gal.), 'arm cut off'. A proper name.

ADIRJIRJA (Gal. 1), 'a rush of water'.

ADIRJIRJA (Viera, Bory), 'a stream'.

AJERJO (Gal. 1). A district so called from the springs of water which took rise there in a small space.

ANARFEQUE (Gal. 1), 'wormwood, absinthe' (Berth.). Galindo explains it by *incienos*, for *inciensos*, pl. of *incienso*, 'incense'.

<sup>6</sup> Bute mistranslated the Spanish of sentence 6 by "may he live to feel the evils of destiny" words that could not be uttered to the king's face. The correct reading is "may he live in spite of the evils of destiny".

ANTRAHA (Bory), 'a male'. Cf. *altaha, anthaa*, §11, 'a valiant man'.

AYATIMAS-GUAYA (Gal. 1), AYADISMACAYA (Viera?, Chil), 'below the cliffs'.

AYSOUAGAN (Gal. 2), AYSOURAGAN (Gal. 1), 'the place where they were frozen'. The first word might be written *aysobagan*; cf. (Q.) *sebek*, 'to harden, to congeal'. The 3 sg. is *sebekan*. *Ay* is (Q.) *ai*, 'these': *ai sebekan*, 'these congealed'. *Sebek* may be from (Ar.) *sabak*, 'to cast metal', with reference to the hardening which takes place afterwards.

BENAHORE, BENEHORE (Gal. 1, 2), 'my country, my land'. Glas disbelieved the alleged meaning of the word and connected it with Beni Hoare, 'a tribe of Africans on the Atlas'. Leo Africanus mentions the Haoara as inhabiting the country of Temesna. This province was bounded on the south by the river Um er-Rebia which falls into the Atlantic at Azamor. That the Haoara of Leo are the Hawâra there is no doubt. The Hawâra, though mixed, are of undoubted Berber origin and are at present scattered over various parts of North Africa. In Morocco they are found in the Sûs valley and on the Muluya. The Hawâra of the Sûs are all sedentary, those on the Muluya live in tents. Arabic is now their only language. Owing to the relative proximity of the Sûs valley it is quite possible that in later times some of the tribe passed over to the Island and gave it their name.

BENINARFACA (Gal. 1), a place where *anarfeque* grows. See above. *Ben* = *ui-n*, 'that (place) of wormwood'. Parallel forms are *In Salah*, *In Gar*, *In Tabôrak*, *In Azâl*, all places in the Sahara or the Sudan.

CIGUENA (Viera?, Chil), 'sheep or goat'. Possibly a misreading of *tequevite*, § 4, from reading *t* as *c* and *v* as *n*, besides omitting the final *-t*.

GUEHEBEY (Gal. 1). The old name of what is now called El Charco, 'the pool of water'. Cf. (Tait.) *teguhamt*, 'a canal, a conduit of water', as a feminine form of the word.

HUIGUIRO (Viera?, Chil), 'the white'. A proper name.

IFE (Gal.), 'white'. See *tener* below. *Ife* may be connected with (Tait.) *afa*, 'light'.

IRNENE (Gal. 1), IRVENE (Gal. 2), YRUENE (Bory), a demon which appeared in the form of a woolly dog.

JUESCO (Gal. 1), RUESCO (Gal. 2), XUESTO (Viera), UESTO (Bory), 'root of mallows'.

(Ar.) *ḥubbâz*, 'mallows'.

(Shil.) *ḥobbez*, 'mallows'.

TENER (Gal.), 'mountains'. Galindo explained the word Tenerife by *tener*, 'mountain' and *ife*, 'white'. Cf. Espinosa's explanation in §13.

TACANDE (Gal. 1), TOCANDE (Gal. 2), 'burnt stone'. The name of a mountain of a volcanic nature. Cf. (Tait.) *teqquet*, 'a burn', (M.) *takat*, (Shil.) *tākāt*, 'a fireplace, a fire'. The *n* might be a Spanish insertion as in (Sp.) *alcanfor* from (Ar.) *al-kāfur*, 'camphor'.

ZELOI (Bory), 'sun'. Other forms which he gives for different islands are *Alio*, §11; *Lia*, §12; *Lion*, §16. They all seem to have a common origin, something like *\*zelion*, perhaps a plural form. Cf. (Q.) *azal*, *azzal*, 'daylight, the middle of the day when the heat is greatest'. These words have no plural, but the corresponding words in (Tait.) *ahel*, (Aw.) *ašel*, 'day' form a plural *ihilan*, *ešilan*. So the words translated 'the sun in summer, the sun' might possibly mean 'very hot days'.

## §16. Ferro.

ARANFAIBO (Gal. 1), ARANJAIBO (Gal. 2), HARANFAIBO (Viera), a surety, an intercessor, who appeared in the form of a pig.

BANODES (Gal. 1), poles, three fingers thick, used as weapons. This is the Sp. plural of *banot* or *banod* of §13.

BEROTE (Aguilar), 'a pool of water'.

BINBACHOS (Gal.?, Chil), BINBAPOS (Chil), the name of the inhabitants of Ferro.

CHAFENA (Aguilar), 'parched wheat'.

FRAORANHAN (Gal. 1), ERAORANZAN (Gal. 2), the divinity worshiped by the men.

FUBAQUE, see *jubaque*, §10.

HARAN (Gal. 1, Viera), ARAN (Gal. 2), fern roots used as food.

(Q.) *asar*, pl. *isuran*, 'roots'.

HARBA (Bory), 'a loan'.

LION (Bory), 'sun'. See *zeloi*, §15.

MONEIBA (Gal.), the divinity worshiped by the women.

TOMASAQUES (Gal., Viera), 'long poles'. In Tamošeq a final *q* in a feminine noun stands for *-ǵt*, so the masculine form would be *massaǵ*, cf. (Tam.) *madaǵ*, 'a pole'.

#### EVIDENCE FROM GRAMMATICAL STRUCTURE

The relationship between two languages can never be satisfactorily established by merely comparing a number of nouns and showing the similarity between them. It is evident that these may be simply loan words incorporated from one language into the other.

To establish a direct connection structural similarities must be found, and that to some extent such exist appears from the following evidence:—

##### *Feminine nouns*

In Berber feminine nouns have initial *t*-. Canarian examples—

Temosen, 'barley', §1

Tahatan, 'ewes', §2

Chamato, 'woman', §3

Tedote, 'a hill', §4

Tigot, 'cloud, fog', §4

##### *Plural of nouns*

The regular plural in Berber is formed by the suffix *-en*, *-in*. Canarian examples—

Temosen is plural in Berber, §1

Taharen, *tahatan*, §2

Ahoren, *irichen*, §3

Hamen 'water', *aman* 'water' is pl. in Berber, §4

Ahemon, 'water', §5

An example of an internal plural, formed by changing the vowels of the singular, is probably to be seen in *doramas* §7, compared with (Q.) *tugmas*, the plural of *tugmest*.

##### *The genitive*

In Berber, especially in the southern dialects, the genitive is rendered by the particle *en*, *n*, placed between the two nouns, the governing noun coming first.

*Tamog(r)ante en Acoran*, 'the great (house) of Acoran', §7

*Ta-n-urif* or *Ti-n-irife*, 'the (land) of anger or of heat', §9

In Berber when a noun of relationship such as 'mother' governs another noun, the former takes the suffix *-s*, *-es*, 'his, her'.

*Mayex* or *mayce gua-yazerax* [*en*] 'the mother of the sustainer', §8. Here *x* and *c* may be read *š*, *s*.

The words correspond very nearly in form with (Tait.) *ma-s n wa iegerahen*, 'his mother of him who keeps'. But the sign of the genitive *n* has been omitted and the final *-en* of the verb is supplied from a variant. See §8.

##### *The verb*

In Berber the 2 sg. imperative shows the verb in its simplest form.

*Ger-te*, 'throw it', (§4) = (Tait.) *ger-t*, 'throw it'.

*Snas* (§7) is perhaps the same as *sens*, the factive of *ens*, but this is far from certain.

The 3 sg. masc. of the one-form of the verb takes initial *i*-.

*iguída* (§4) = (Tait.) *igged*, 'he jumps down'. The final *-a* is possibly to be read with the next word as *iguída da*.

The 3 pl. ends in *-w*.

*Souragan, souagan* (§15), 'they were frozen'.

The 3 sg. of the participial or relative form has initial *i*- and terminates in *-en*.

*Guaychafun* (§8) can be read *gua ichafun*, 'he who holds', which corresponds in form with (Tait.) *wa ittāfen*, (M.) *ittāfen*, 'he who holds'. *Gua yerzeran* (§8), 'who sustains', has the same form.

In Berber the 3 sg. fem. of the participial or relative form begins and ends with *t*.

In §8 an imperfect example of this is perhaps to be seen in *chaxirazi* 'she who carries'. Reading *t* for *ch*, as in *chamato* for *tamato*, we get *taxirazi* 'she holds', which in form is exactly the same as the 3 sg. fem. in Berber. But the relative form to be complete must be *ta taxirazi[t]*, 'she who carries,' and *ta taxirazi[t]* is the correct feminine of *gua yazerazi[n]*, 'he who carries or sustains'.

Some of these verbal forms are uncertain owing to the corruption of the text, caused by the carelessness of copyists, and so need a little correction. But nevertheless a presumption remains that the grammatical structure of the Canarian language, including the P-language of Tenerife, was similar to that of Berber.

It should be noted too that the 3 sg. masc. and fem. and the 3 pl. masc., so far as they can be recovered, are also quite Hamitic in form. On that account it is legitimate to conclude that they may have been in use as early as the first colonization of the Canary Islands from the mainland. Of these Hamitic forms the following may serve as examples:—

Berber Perf.	Bedja Perf.	Somali Perf.	Saho Perf.
3 sg. masc. i-elkem	i-gid	yi-mid	ya-likê
3 sg. fem. t-elkem	ti-gid	ti-mid	ta-likê
3 pl. masc. elkem-en	e-gid-na	yi-mâd-ên	ya-lik-in

### The numerals

Two lists of numerals once current in the Grand Canary have been preserved. The first goes back to the year 1341. In that year two Florentine ships, equipped by the King of Portugal, sailed from Lisbon to find what booty could be obtained from the Canary Islands. The expedition found them less rich than was expected, but it brought back to Lisbon four natives of the Grand Canary. One of the pilots, the Genoese Niccoloso da Recco, on his return to Florence, wrote for the owner of the ships an account of the expedition, to which he appended a list of numerals, sixteen in number. These he probably obtained from the four native prisoners. This list is given below as List A.

The second list, B, according to Chil, is due to Cedeño, who came to the Grand Canary with Juan Rejon in the year 1478. It is therefore about 140 years later than the first. But Berthelot states that it was made by Galindo about the year 1630. The copies given by Chil and by Berthelot differ a little, as will be seen below. José de Sosa gives a list of numerals, from one to eleven which corresponds with those presented below in List B. The writer of the note mentions that he copied the list in 1785 from a book belonging to Lorenzo Xuarez de la Guardia y Abreu, a citizen of Oratava (in Tenerife). Berthelot may have seen a more complete copy elsewhere and through inadvertence have attributed it to Abreu Galindo. For in neither of the editions of Galindo is there any mention of Canarian numerals.

List A.	List B.
1. nait.....	been, ben
2. smetti.....	lini
3. amelotti.....	amiat, amiet
4. acodetti.....	arba
5. simusetti.....	cansa

List A.	List B.
6. sesetti.....	sumus
7. satti.....	sat
8. Tamatti.....	set
9. aldamorana.....	acot
10. marava.....	marago
11. nait marava.....	beni marago
12. smatta marava.....	lini marago
13. ameriat marava.....	_____
14. acodat marava.....	_____
15. simusat marava.....	_____
16. sesatti marava.....	_____
20. ....	linago
21. ....	beni linago <sup>7</sup>
22. ....	lini linago <sup>7</sup>
30. ....	amiago
31. ....	beni amiago <sup>7</sup>
32. ....	lini amiago <sup>7</sup>
40. ....	arbago
50. ....	cansago
60. ....	sumago
70. ....	satago
80. ....	setago
90. ....	acotago
100. ....	beemaragoin
200. ....	limaragoin

The connection between these numerals and those of Berber is partially apparent from a glance at List C. In List C the Tamošeq numbers are given in the feminine up to nine. For the Moroccan dialects both masculine and feminine forms are presented.

List C		
Tamošeq	Morocco	Zenaga
1. iyet.....	yan, yat.....	iun, niu, neiun
2. senatet.....	sin, senat, snat.....	šin, nišin.
3. keraḡet.....	kraḡ, krat.....	_____
4. okkozet.....	akkoz, akkozt.....	akoz.
5. semmuset.....	smus, smust, summust.....	_____
6. sediset.....	saddis, saddist.....	šoduš
7. essahat.....	sa, sat.....	išša
8. ettamet.....	tam, tamt.....	ittem
9. tezzahat.....	tza, tzat.....	tusa
10. merau.....	merāu, merāut.....	merāg.
11. merau d iyen.....	yan de merau, yat de merau.....	_____
12. merau de sin.....	sin de merau, snat de merau.....	_____
13. merau de kerad.....	kraḡ de merau, kraṭṭe merau.....	_____
20. senatet temeruin.....	senat temrauin.....	tešinda
21. senatet temeruin d iyen.....	_____	_____
30. keraḡet temeruin.....	krat temrauin.....	karat de tmérin
40. okkozet temeruin.....	kost temrauin.....	akuz de tmérin
50. semmuset temeruin.....	semmust temrauin.....	_____
100. timidi.....	mia.....	tmaši
200. senatet temad.....	mitin.....	_____
1000. agim.....	_____	_____

<sup>7</sup> These forms are not given by Dr. Chil, who copied from Cedeno's manuscript. I have taken them from Pietschmann, Ueber die Kanarischen Zahlworte, Zeit. f. Ethnol., vol. 11, Berlin, p. 378, who followed Berthelot. The numbers from sixty to ninety are given by Chil but not by Berthelot.

## List A

NAIT, 'one'. In Zenaga there are two forms, *iun* and *niu*. The feminine is not given by Faidherbe, but \**niut* might be expected, which compares well with *nait*.

SMETTI, 'two' with the change *m* into *n*, which occurs in some Berber dialects, *smetti* compares well with (Shil.) *snāt*, (M.) *senat*, *snat*.

The doubling of the *t* in all the words from two to eight inclusive is not easy to account for. It might be the copula *de*, *di*, 'and', which would become *ti* when following *t*, supposing that the native said 'two and', 'three and' etc., when counting.

AMELOTTI, 'three'. The *l* is uncertain as the word for thirteen is *ameriat marava*. But whether *l* or *r* is the correct consonant the word does not correspond with the expression for 'three' in any Berber dialect.

ACODETTI, 'four', is the equivalent of (Tam.) *okkozet*, (M.) *akkoz*. Here the *d* may be earlier than the *z*. Examples of this change are (Tam.) *ebdeg*, (Zen.) *udag*, (Q.) *ebzeg*, 'to be wet'; (Tam.) *egged*, (Q.) *neggez* 'to jump'.

SIMUSETTI, 'five', is (Tam.) *semmuset*, (M.) *semmust*. The word has evidently a close affinity with (Ar.) *ḥamsat-un*, five. It is in all probability an early loan word, but as *ḥ* is not an original sound in Berber it was replaced by *s*. The initial *s* indicates that the Canarian word was taken over from the Berbers of the mainland and not directly from Arabs.

SESETTI, 'six', agrees closely with (Tam.) *seddiset*, (M.) *saddist*, though the *d* has dropped out. In the (Ar.) *sitt-at-un*, 'six', the *tt* is a contraction and assimilation of *dis*, which is preserved in the ordinal *sâdis-at-un*, 'sixth'. This indicates that the Berber loan word was adopted at an early date, not improbably before the era of Muhammad when Arabic first began to be written in books.

SATTI, 'seven', (Tam.) *essahat*, (M.) *sat*. All these are contracted forms of (Ar.) *sabatun*, 'seven'.

TAMATTI, 'eight', (Tam.) *ettamet*, (M.) *tamt*. All these are shortened from (Ar.) *ṯamanīyat-un*, 'eight'. The great attrition that this word and the word for seven have undergone is proof that they have been very long in use and were borrowed as early as *sesettib*, 'six'.

ALDAMORANA, 'nine'. As Berthelot remarked, the *n* is doubtless a misread *v* and *morana* is the same as *marava*. The Canarian word has no connection with the Berber word for nine, and the *alda* is difficult to explain. Cf. (Tait.) *illad i*, 'on this side of'. It governs the preposition *i*, 'to', e. g. *illad i teflut*, 'on this side of the door'. So *illad i morava* would mean 'on this side of ten'. Or cf. *shawia alda*, 'as far as, up to'; *alda morava*, 'as far as, up to ten'.

MARAVA, 'ten' corresponds with (Tam.) *merau*, but it is an older form as it retains a final *a*. It will be observed that *marava* is masculine and not feminine like the words from one to eight inclusive.

The numerals in the list from eleven to sixteen require no particular comment, though it will be observed that the units precede the tens as in the Moroccan dialects, in Zenaga, and in Arabic, though not in Tamošeq. The difference in the vowels and the absence of final *ti* in three of the words may be explained by the negligence or inadvertence of the scribe so that nothing definite can be built upon them.

## List B

BEEN, BEN, 'one'. In Spanish books of the 16th and 17th centuries *v* is often used for *u*, so *ben* may be another way of writing *uen*, a form which compares with (W., Zen.) *iun*, (Q.) *iuēn*, 'one,' though we have in (Tam.) *iyen*, in (Mz.) *iggen*.

LINI, 'two'. Although in the Hamitic languages somewhat similar forms are to be found, as in (Bilin) *lāna*, (Khamir) *liña*, 'two', (Galla) *lama*, (Bedja) *malo*, 'two', it is preferable to suppose that *lini* is a dialectical form of a Berber word. The (Tam.) *sin*, 'two', is possibly for an older \**snin*, cf. (Ar.) *iṯnāni*, 'two', in which case an old Canarian dialect may have dropped initial *s* and retained *nin*. The interchange of *n* and *l* is possible phonetically, both being liquids, and occurs, though rarely, in Berber, e. g. (Mz.) *tisubna*, (W.) *tsubla* 'a large needle', (Tait.) *tissubla* 'an awl'.



AMIAT, AMIET, 'three'. Comparing this with *amelotti*, *ameriat*, 'three' of List A it is evident that an *l* or *r* has fallen out between the two vowels *-ia-*.

ARBA, 'four' is clearly a late loan word from (Ar.) *arba'*, 'four'.

CANSA, 'five', is the Ar. *ḥamsa* and again indicates that *ḥ* was a foreign sound, or one that was not liked. The interchange of *m* and *n* occasionally happens in Berber dialects, e. g. (Q.) anzar, (W.) amzar, 'rain'. (Q.) endi, (Bougie) emdi, 'to set a snare'.

SUMUS, 'six', is the masc. form of *simuseti*, 'five', of List A and agrees with (Tam.) semmas, (Shil.) summus, 'five'.

SAT, 'seven' corresponds with modern (Ar.) sitt, 'six', and with sesetti, 'six', of List A, (Tam.) sediset, (Shil.) sddist, 'six'.

SET, 'eight' is the satti, 'seven' of List A; (Shil.) ssät, 'seven'.

ACOT, 'nine', is the masc. form of *acodetti*, 'four', of List A; (Tam.) okkoz, (Shil.) (kuz), 'four'.

MARAGO, 'ten', is the *marava* of List A. In Berber dialects *g* sometimes results from the contraction of a double *u*, e. g. (Tam.) iggat, 'he strikes often' is for *iuuat*, from *iuot*, 'he struck'. (Mz.) aggai, 'a burden' from *au*, 'to carry'. But it can also develop from a single *u*, e. g. (Zen.) tutfiθ, (W.) tagdefit, 'an ant'. In this way *marava* has become *marago*.

BENI MARAGO, 'eleven'. In the Berber dialects a copula *d*, 'and', is inserted between the units and the tens, as will be noticed in List C. In the Canarian dialect it appears to be omitted, as is also the case in Hamitic Bedja.

LINI MARAGO, 'twelve', calls for no remark.

LINAGO, 'twenty', AMIAGO, 'thirty', ARBIAGO, forty, CANBAGO, fifty, etc., as far as ACOTAGO, ninety are very remarkable. The tens are formed by bisecting the word for ten, *mar-ago*, and using the second half, which remains in the singular, as a suffix. Such a procedure is quite contrary to Berber usage and there is no analogy for it.

BEEMARAGOIN, 'hundred'. MARAGOIN is the plural of *marago* and is quite conformable with (Mz.) merau-in, 'tens', (Tam.) temeru-in, (Shil.) temer-âw-in, 'a set of ten', [(Fr.) *dizaine*], with which the tens are formed in the Sahara and Morocco. But it is evident 'one (set of) tens', *bee marago*, does not itself mean 'hundred'. As the Beni Mzab sometimes say *merau merauin*, 'ten tens' for a hundred, it may be supposed that *bee marago* is shortened from *bee marago marago* 'one ten-tens', the middle word having been omitted in course of time for the sake of brevity.

These two lists, A and B, when compared show that both have native words only as far as four, though in List B the old word *acot*, 'four' has been displaced and removed to nine for a reason which will be explained below. From five to eight inclusive the words have been borrowed from the Arabic, apparently not directly but through the medium of the adjacent Berbers of the mainland. The words for seven and eight of List A make this nearly certain.

Though this borrowing, which is discernible in List A, is relatively old, it does not take us very far back, and we are left in the dark as regards the method of counting in the really early times when the Canary Islands received their first human population from the opposite coast. It is, however, possible that the natives used a quinary and not a decimal system. If so they would not stand alone, for traces of a quinary system have been observed in the Hamitic languages of the Bedja, Bilin, and Khamir. Basset mentions that in the dialects of Mzab, Gebel Nefusa, and Wad Riğ the natives sometimes say *afus*, 'hand' for five, *afus d iggen* 'hand and one' for six, and so on.

A trace of this quinary system may be perceived in List B, for it helps to account for some of the displacements in the value of the names. As Dr. Berthelot has remarked, the words for four and five in List A correspond with nine and six of List B. Both he and Pietschmann supposed that this was owing to a mistake on the part of the compiler of the list. Another explanation, however, presents itself as a possibility which is at least worthy of consideration.

The *aldamorava*, 'nine', of List A has no relation to (Tam.) *tessaa*, *tessahat*, which is evidently borrowed from (Ar.) tis'-u, fem. tis'-at-u, 'nine', and has no place in List B. When the new words *arba*,

'four', and *cansa*, 'five', were adopted they may have had the effect of pushing forward the words for five, six, seven, one unit in the scale to six, seven, eight. As *sumus*, 'five', would then have taken on the value of six it would necessarily have been omitted in the old compound *sumus* [d] *acot*, 'nine', (5 + 4) and so *acot* would have remained as the word for nine. The advancement of the old words for five, six, seven to six, seven, eight would not, perhaps, have been in the nature of a common change: it is not, however, an inconceivable one. Such a change might cause some confusion and inconvenience at first, but the succeeding generation would never suspect that *sumus* had once meant 'five' and *acot*, 'four'.

#### P-WORDS

Except in Zenaga — and in Zenaga only in some special cases — *p* does not represent a sound proper to any Berber dialect. The same is true in most of the Hamitic languages, although the sound existed in ancient Egyptian and in Coptic, and is found in Hausa and in a few West Libyan words. For instance, Ptolemy places Ospinum in Tingitana; and Tipasa, Aripa, Suptu, and Pigava (?) in Mauritania Caesariensis. So it is not theoretically impossible that, at a remote period, such as that when the Canarian Archipelago was first colonized from the mainland, the newcomers had P-words in their vocabulary.

The number of P-words recorded in the seven islands is about 58 and this considerable number prevents our supposing that the sound of *b* was often mistaken for that of *p*. The old name of Orotáva in Tenerife was *Araulápala*. Here perhaps the *p* ought to have been written *b*, as the sound afterwards became *v*. The variants *Pelicar* and *Belicar*, *Tesbapo* and *Tesbabo* occur, but these are scribal errors and not the result of the native word having been taken down by two different persons. In Lanzarote are found the place names *Guanapaya*, *Timanfaya* and the proper name *Tinguanfaya*, where perhaps *paya* and *faya* have the same meaning. In Fuerteventura *fayra* is said to mean 'a round stone', and this possibly explains the place names Tumbapaire, Finvapaire in the same Island. In the Grand Canary *faya* means 'a powerful man, a man of importance', and we have noticed the name of a captain called *Fayahuracan*. Perhaps the same word is to be seen in *Chipaya*, a place name in Goméra.

In the compound word *Potigaiga*, the name of a small village in Tenerife, we find the element *Tigaiga* not only as the name of a village and of a mountain, but also as that of a celebrated captain of Bencomo, king of Taoro. Three other kings on the Island had names containing *p*—*Pelicar* king of Icod, *Pelinor*, and *Athitocazpe* (var. *Arbitocarpe*), both kings of Adexe at different times. Again, a celebrated captain was *Peligodono*. It is evident therefore that a P-language was certainly spoken by the upper classes in Tenerife and probably by the whole population. It is equally sure that the language of the sentences used at the coronation of the Tenerifan kings given by Espinosa and Viana (§ 13) must have belonged to the same form of speech. There must also be included the five formulas of divine names, given by Espinosa and Galindo (§ 8), since they contain the words *Achoron*, *Xerax*, which are found in the sentences used at the coronation.

The distribution of P-words in the different islands is far from uniform:—

Islands	Number of P-words
Lanzarote	3
Fuerteventura	5 or 6
Grand Canary	6
Tenerife	19 or 20
Goméa	20
Palma	1
Ferro	3 or 4
	<hr/>
	57 or 60

In Tenerife ten or twelve words of undoubted affinity with Berber are exhibited in Class I. Espinosa, who lived for many years on the Island at Candelaria on the east coast, where the native language was longest preserved, observed a difference in the appearance of the natives in the north and south. In the south they were swarthy or brown, while in the north they were white, and the women rosy and beautiful. But he never hints that there was any difference of language between these two strongly marked sections of the population.

All the P-words recorded are proper names or place names, the meaning of which is unknown, except in four instances. These are *guapil* from Lanzarote, *guapilete* and *puna-pal* from the Grand Canary, and *añepa* from Tenerife. The first means 'a skin headdress with three feathers'; the second, 'a girdle of rushes worn at the waist'; the third, 'eldest son by the first wife of a noble'; the fourth, 'a lance or pole, with a flag attached, carried before the king'. In the eighth Tenerifan sentence (§13) the word *pelut* occurs, but its meaning is unknown. These four terms of known meaning relate to the stone age civilization of the natives and from their meaning might have disappeared in modern Berber.

In any written language with a sufficiently long history a sound may be observed to have dropped out of use in a later stage without in the least affecting its genetic connection with the earlier stage. For instance, in the earliest known Greek the digamma was sounded, but by the classical period it had vanished. Therefore, if it is possible to connect the P-language of Tenerife in some respects with Berber, the loss of a P-sound in the latter language is no obstacle. It only means that in its earlier stages Berber used that sound, and that a Tenerifan type of speech was its predecessor.

The material for showing the similarity is very scanty, but the points of agreement are grammatical and not merely lexical. In *(ach)gua-yerzeran*, *(ach)gua-ychafun* (§8), where in both cases the *y* can be read *i*, the verb begins with *i* and ends with *n* and so corresponds exactly with the 3 sg. participial form in Berber when preceded by a relative such as *gua*. And in *chiraxi* (§8) if *t* can be read for *ch*, we get the exact 3 sg. fem. of a Berber verb. The four words belong to the P-language.

Identities with Berber grammar are also to be observed in the Grand Canary. As the word *Acoran*, 'God' was current in that island it must, as in Tenerife, belong to the P-language. The Berber use of *en* to mark the genitive is seen in *tamogante en Acoran* 'the house of God' (§7). In the vocabulary if *adar* in *Adargoma*, 'shoulders of rock' (§7) is rightly equated with (Berber) *azir*, *ezar*, *igar* 'shoulder' and with (Ar.) *zahr*, *ḍahr*, 'back', the Canarian and Berber forms are sufficiently different to allow us to regard *adar* as a cognate and not a loan word. The possibility of (Berber) *azir*, *ezar* being borrowed from Arabic is barred if *adar* is an old form of (Berber) *azir*. For the same reason *taguazen*, 'hogs' (§7), which has analogy with a Berber and a Hausa word, may belong to the oldest stratum of the language. If so it exhibits a Berber plural in *-en*.

In the island of Palma *haguayan*, *aguyan* (§9), 'dog' from its analogy with a Berber and with a Hamitic word may also be regarded as a cognate.

Although these similarities of grammar between Berber and the language of two or three of the islands are few in number they can hardly be disputed. If they are granted, the P-language of two, at any rate, of the Canary Islands represents an earlier phase of modern Berber and may be regarded as a western branch of Proto-Libyan.

#### BERTHELOT'S PROOFS THAT CANARIAN SPEECH IN ALL THE ISLANDS WAS RELATED TO BERBER

Berthelot laid great stress on the fact that a large proportion of Canarian and Berber words began with *t*-. He estimated that out of about seven hundred Canarian words those with initial *t*- form about one third of the total number; with initial *a*-, about one fifth; with initial *g*-, about one tenth; with initial *i*- about one twentieth. A comparison made with words of diverse Berber dialects collected from the lists of Delaporte, Hodson, and others, showed in his opinion that the proportion of such initial sounds was not very different. It will be observed that Berthelot made his calculations from lists, and not from consecutive texts: consequently the percentage of words with initial *t*- is exaggerated. The number of such words in a consecutive text of a thousand Tamošeq words is only about one sixteenth. And in any hundred consecutive words the proportion varies greatly, ranging from 9% to 31%.

Berthelot gives a list of Canarian words five of which can be satisfactorily compared with Berber, viz. *tagoror* (§3), *ahoren* (§3), *ara* (§3), *tihaxan* (§2), *oche* (§3). For *azamotan* (§12) he gives, on the authority of Ritter, *azamitan*, 'kneaded barley' — a word which I have not found in any Berber vocabulary. He also equates *tamacen*, 'hog', an incorrect form of *taguacen* (§7) with *tamuren*, a feminine form of (Shil.) *murrān*, 'a wild pig'. Some of his comparisons are quite untenable, e. g. *abora* (§15), 'God' is compared with (Q.) *arbi*, 'God', a mistake for (Q.) *rebbi*, 'God', a loan word from Arabic; *añepa* (§13) with *agnes* or *añes* (Siwāh), 'a stick', a word not mentioned by Basset and at any rate impossible

as an equation; *aysuragan* (§15) with (Q.) *azumen* for *asemmid*, 'cold', and (Q.) *azrau*, 'rock'; *tabona* and *tafriue* (§6), 'knife' with (Ghdm.) *tafuza*, 'a knife'; *tamaragua* (§7), 'bon jour' with (Q.) *tabarakser*, 'adieu' (Ghdm.) *tamasargult*, 'soyez le bienvenue'; *tibicen* (§12), 'a dog-like phantom' with (Ghdm.) *ibi*, 'a dog', a mistake for *aidi* 'dog'; *vacaguare* (§9) with (Ghdm.) *argras*, 'kill', a mistake for *egres*, 'cut the throat'. Clearly not one of these equations holds good and all must be rejected as examples of affinity between Canarian and Berber. It must be remembered, however, that any short comings on the part of Berthelot in his rendering of Berber words is due to the fact that he published his remarks on the Canarian language as far back as 1842, or nearly seventy five years ago. Before that time the Berber dialects had not been sufficiently studied by competent persons, so that he had to rely on lists of words collected by travelers and taken down without sufficient exactitude. He was thus at a great disadvantage compared with a modern student.

Beside likenesses with Berber, Berthelot detected, as he believed, a very considerable number of Arabic words in the Canarian vocabulary. Some of these equations are, however, quite unacceptable, e. g. *eraohanhan* (*eraoranhhan*, §16), 'God' was supposed to be a modification of (Ar.) *er-rahman*, 'the merciful'; *echeyde* (§13) of (Ar.) *eš-šeytân*, 'Satan'; *faican* or *faicas* (§12) of (Ar.) *fakḥ*, 'doctor, savant'; *guanil* (§11) of (Ar.) *al-ganam*, 'a flock of sheep'; *amenacoran* (*almene acoran*, §7), 'my God have pity', he believed to be partly Arabic. But 'pity' is not one of the meanings of *âmânah*, and the imperative of the verb would take initial *i-*.

Then he gives a list of words apparently Arabic. *Abentahar*, *Alcoïdan*, *Alguabozeque*, *Almabice*, *Amalhuije*, *Beneharo*, *Benrimmon*, *Bentaguairé*, etc., as names of men and women. *Abenguareme*, *Almaïda*, *Almerchiga*, *Albarada*, *Beniche*, *Benijo*, *Bentayga*, *Beninarfau*, etc., as names of places. It is possible that some of these words are Arabic, but as their meaning is not known there is no certainty that such is the case. Names beginning with *Ben-* can be explained by (Berber) *uin*, 'he who' or *ui-n* 'that of', which might be written *vin-*, *bin-* and *ben-* by Spaniards. And in *Beninarfaca* (§15) which is a better reading than *Beninarfau*, *inarfau* is not an Arabic word. An exception, however, is *Benrimmon*, better *Benrimmo* (§13), which is translated 'son of a cripple'. But the word may well be of introduction later than the date of the conquest of Tenerife.

Berthelot held that *Guanche* (§3) was derived from *Guanscheris* or *Guanseris* (the *Warsenis*), a Berber tribe twenty leagues south of Cape Tenez. As this cape lies on the north coast of Algeria it seems incredible that so remote a tribe should have given its name to the natives of Tenerife.

On the whole, it may be said that Berthelot's proofs of affinity between Canarian and Berber were not very strong, and the words rightly comparable with Berber might be

attributed in some measure to borrowing from natives of the opposite coast after the conquest of the Archipelago.

At any rate his arguments failed to convince the Marquis of Bute in 1891, or Markham in 1907. The former, in a paper read before the British Association in 1891 confined his attention to the language of Tenerife, and based his study on Chil's list of Tenerifan words. He attacked the problem with an open mind, and was an advocate of no previously formed theory. He was struck by what seemed to him Aryan elements in the vocabulary. For instance *aguere* (§3), 'a lake', he would connect with (Lat.) *aqua*, and (Eng.) *weir*; *cel* (§4), 'moon', with (Greek) *σελήνη*; *zonfa* (§13) was suggestive of *zone*; *mencey* (§3), 'king' reminded him of *eminence*; *reste* (§13) 'defence, prop', of (Eng.) *rest* in the sense of 'a prop'; *sote* in his opinion had something to do with (Lat.) *subter*, (Sp.) *soto*; *pelut* or *petut* suggested to him the (Lat.) *pater* or (Eng.) 'father'!

In the field of grammar he was convinced, as has been mentioned above, that *achi*, *ac*, *at*, represented the definite article, though without indicating gender. He regarded it as a modification of *t*, which in some way resembled the Coptic definite article *t* which may be vocalized as *et* or *ti*. But the closest parallel to the Tenerifan article was obviously the (Eng.) *the*. Comparing *cuca*, 'son' with *cucaha*, 'daughter', he concluded that *-ha* was a regular feminine termination and that, as in Latin, a masculine noun might end in *-a*. Some words ending in *-o*, *-i*, *-y* seemed to be genitives, e. g. *quebehi* *Bencomo*, 'the majesty of Bencomo', *guayaxiraxi*, 'the soul of the sky'.

In the verb, two examples of the 1 sg. pres. were to be seen in *guayohec*, 'I become, I live' and in *agoñec*, 'I swear'. The final *-ec* was to Lord Bute at once suggestive of the (Lat.) *ego*. The variant *agoñey* would relate this suffix to the Coptic and Semitic first persons, to Latin first persons perfect in *-i*, and to the English pronoun *I*. For the 3 pers. sg. he hazarded the conjecture that it ended in *-th*, and it was then hardly necessary to point out the coincidence with (Lat.) *-t* and (Eng.) *-th*. In *tanagaguayoch*, 'he has died', *tan-* was probably a prefix indicating the past. In this word and in *haya* and *fahet* or *sahec*, which look like parts of a verb, is to be noticed the *a*, which is the Coptic auxiliary in the past tense. (This statement is difficult to understand, as the Coptic *a*, used in forming the past tense, is a prefix.) The personal pronouns attached to nouns may have been given, as in Coptic, by a suffix. In *zahañat*, 'thy slave', the *-t* is the suffix of the 2 sg. For the plural an example is found in *quevihi-era*, 'your highness'.

He concludes with these words:—

I am not unconscious that while I have suggested certain Aryan analogies, especially in the vocabulary, certain grammatical forms which I have indicated as possible, such as a definite article in *t*, feminines in *a*, and pronominal suffixes to nouns and verbs, might be interpreted as rather in the same direction as Coptic and thus partially coinciding with the Berber theory, at least as regards its Hamitic origin.

	Lanzarote Fuerte- ventura	Grand Canary	Tenerife	Goméra	Palma	Ferro	Totals
Class I	6	6	12	0	12	5	41
Class II	1	14	8	0	8	3	34
Class III	16	17	53	6	19	6	117
Untranslated	2	1	0	1	0	3	—
Probable misreadings	4	3	0	0	0	0	—
Arabic	6	5	6	3	1	2	23
Spanish	1	0	1	0	0	0	2
							—
						Total	217

It will be observed that only the 41 words in Class I, or about 19% of the total number, can be successfully compared with Berber.

The 34 words in Class II, or less than 16%, have some appearance of affinity with Berber.

In Class III, 117 words — including 28 from the eighth Tenerifan sentence — form about 54% of the total number of Canarian words contained in the three classes, none of which can be satisfactorily compared with Berber. In this class, seven words of unknown meaning are omitted in the total number. But as some of them are the native names of the Islands, and two of them are the names of a special god and goddess, they deserve to find a place in the catalogue of Canarian words. Seven nearly certain misreadings of Bory de St. Vincent, the least reliable of our authorities, are also excluded. The words of apparently Arabic origin, all of which may have come through the medium of Berber with the exception perhaps of *zonfa* (§13) and *harba* (§16), amount to about 10%. But the numerals are not included.

An inspection of the words contained in Class I shows many Canarian vocables which hardly differ from the corresponding forms in Berber. This is clearly exhibited in the table of correspondences between Canarian and Berber consonants at the end of §5. This agreement is so close and exact in many instances that it is impossible not to suppose that they are all cognate words which formed part of a common stock, dating as far back as the first colonization of the Archipelago.

There was undoubtedly intercourse between some of the islands and the mainland before the arrival of French and Spanish conquerors. This is indicated by the numerals of List A which had found entry into the Grand Canary before 1341. And in 1402 Bontier and Leverrier mention that Béthencourt carried off many native prisoners from Fuerteventura to Lanzarote, not only to fortify himself against his enemies with a view of subjugating the country, but also to defend himself against the king of Fez. The latter, it was understood, was preparing an expedition against the French, asserting that all the Islands belonged to him. Thus, as early as the 14th century, and possibly even before that time, the Archipelago was known to the Moors. It is also quite probable that some of the Berber words were introduced after the reduction of the Islands by Béthencourt and the Spaniards, for both were in the habit of making raids on the African coast and bringing away captives.

The upshot of these investigations leads to the conclusion that a certain number of the words of undoubted relationship with Berber were of relatively late introduction. We may believe that they were easily absorbed into the speech of the original inhabitants, as that speech was itself of African origin, although it included the sound of P. In its verbal structure, as has been remarked, it apparently was in some points similar to that of



Berber and other Hamitic languages. An examination of the numerals may lead to the belief that originally the method of counting was by fives and not by tens, and that all the early Canarians used a quinary, and not a decimal, system.

Finally it seems allowable to presume that the ancient form of speech current in the Canary Islands, some of which is preserved in Classes II and III, is a lineal descendant of a western dialect of Proto-Libyan.

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and a braided collar with bead ornaments. There is in this case no tunic, and the body shows the usual scarifications. Over the right shoulder hangs a baldric, from which depend elaborate tassels. The figure wears a double braided belt and a looped-up loin cloth partially ornamented. The left hand grasps a sword with a circular pommel, while at the left side hangs an embroidered sword ornament in the shape of petals.

The attendant on the left has the head so shaved as to leave a sagittal crest with a pendant braid on each side. Over each eye is a circular scarification with three vertical incisions in it. Around the neck is a scarf with fringed ends. The figure wears a baldric similar to that of his companion, and grasps a sword in the left hand. The right hand carries a circular fan, and the arms are adorned with metal armlets. There is no loin cloth. The background of the plaque has the usual foil ornament.

In the British Museum is a plaque that differs from the one above described only in a few minor details; Read and Dalton, *op. cit.*, pl. 15, fig. 3.

Fig. 4. Cat. no.  $\frac{B}{1481}$ , P. M. Height 48.6 cm., breadth 37.0 cm.

Bronze plaque with chief and two attendants. All three have negroid features and are prognathous. The central figure wears a stiff-fronted headdress with two feathers and pendant plumes behind. Two short braids and a long one weighted with beads hang down on each side. The figure wears two necklaces of beads, and one in which beads alternate with leopard teeth. The figure also wears armlets and anklets. From an ornamented double chest band hangs a quadrangular bell. The principal articles of clothing are a fringed and embroidered leopard skin and an ornamented loin cloth. The right hand carries a spear with a leaf-shaped blade and an open-work shaft, apparently bound with wire. At the left side is the hilt of a sword and in the left hand is a shield of the pattern usually represented on Benin plaques. The attendants are dressed like the right hand person in fig. 3 described above. The background has the usual foil ornament and on each side of the chief's headdress are small reliefs representing the upper half of a European with a long moustache, plumed hat, ruff, and jacket, carrying in the hands some club-like object.

Fig. 5. Cat. no.  $\frac{B}{1482}$ , P. M. Height 49.6 cm., breadth 33.4 cm.

Plaque with single figure of warrior with hemispherical terraced headdress ornamented with beads (a close fitting bead cap?). There is a bead necklace, an armlet on the right arm, and a bracelet on the left. The rest of the costume consists of a baldric with an ox-head mask from which hangs a round bell, a belt with petal-shaped ornaments on the left side, and a relatively plain loin cloth. In the right hand the figure brandishes a leaf-shaped sword, the scabbard of which is held in the left. The background is ornamented with the usual foil design, and at the corners with four inverted crescents in relief.

Fig. 6. Cat. no.  $\frac{B}{1483}$ , P. M. Height 37.4 cm.

Bronze pedestal in form of human head wearing reticulated bead headdress and choker. The headdress is ornamented with two bead rosettes above the left ear, and with one above the right ear, with two cylindrical beads diagonally placed above the eyes, and with a single biconical bead hanging over the glabella. In front of, and behind each ear, five rows of beads hang from the headdress to the shoulders. Behind the right ear is a single braid of hair, weighted at the bottom with a large bead; behind the left ear are two such braids similarly weighted. The ears are poorly formed. Above each of the eyes are three tribal marks. The pupils of the eyes are inlaid with iron.

This is perhaps the most common type of Benin head pedestal. Practically identical specimens are found in the British Museum; Read and Dalton, *op. cit.*, pl. 9, fig. 6: in the Pitt Rivers collection; Pitt Rivers, *op. cit.*, p. 32, figs. 94, 95: in the Pennsylvania Museum; The Museum Journal, vol. 3, no. 3, Sept., 1912, p. 76, fig. 39: in the Liverpool Museum; Ling Roth, *op. cit.*, p. 23, fig. 13; p. 25, fig. 14: in the Museum für Länder- und Völkerkunde in Stuttgart; F. von Luschan, *Die Karl Knorr'sche Sammlung von Benin-Altartümern*, Stuttgart, 1901, p. 84 sq., figs. 63, 64; in the Leiden Museum; Jos. Marquart, *op. cit.*, p. 4, and plate 1, fig. 4.

Fig. 7. Cat. no.  $\frac{B}{1484}$ , P. M. Breadth of base 31 cm., length of base 35.6 cm.

Bronze group which consisted originally of a king and eight female attendants: four in front of the king, two behind him, and one on each side. The figures of the two attendants in front of the king on his left, and the figure behind him on his left, are missing. The figure behind the king on the right has been broken off, and the front right-hand figure has been badly bent. All of the figures are roughly cast. The king stands in the middle of the group with his arms supported by two of his attendants. He is represented as a negroid individual with tribal marks over the eyes, and wears the conical reticulated headdress, ornamented with agate rosettes and beads, that is so often found on Benin heads. He wears a choker and a bead necklace with a single pendant. Crossed bands and a reticulated garment with elbow sleeves cover the upper part of his body. He also wears a petticoat decorated with a guilloche pattern. Bead armlets complete his costume. The female attendants on each side of the king have their hair dressed in three peaks and ornamented with beads. Each wears two necklaces, armlets, anklets, and a short petticoat. Tribal scarifications are shown on faces and bodies. The pair of figures behind the king were evidently holding shields over his head to keep off the sun. The remaining one of the pair has a gable-shaped headdress and a double band passing over the right shoulder and under the left arm, but is otherwise dressed like the attendants just described. The arms are very carelessly rendered and the greater part of the shield has been broken away. The second attendant from the front on the king's right has her hair dressed in two upright clumps, one behind the other. She wears a necklace, a bead band over the left shoulder

and under the right arm, a string of beads around her waist, and no petticoat. In her right hand she carries a circular fan. The figure in front has a headdress with four peaks, two necklaces, a string of beads around the waist, and tribal marks. Across her right shoulder she holds one of the ceremonial iron swords, or *eberes*, a portion of the ring of which has been broken away.

In front of the king is a square aperture in the pedestal, 8.3 cm. on each side, and decorated at its edges with a braid pattern in relief. Immediately in front of this hole is a representation in relief of a triangular stone celt with its cutting edge away from the hole. In front of the celt is what appears to be the representation of a stone knife or ax of triangular section and with the cutting edge upward. The sides of the pedestal are sloping, and there is a horizontal flange at the bottom. At the four corners are rings, evidently designed to hold lashings. The edges of the pedestal are ornamented with a braid design knotted at the corners. On the sides and back of the pedestal is a continuous S-design with single round bosses in the loops and in the triangular spaces. The same design is present on the front face of the pedestal, where in addition there is in the center, just below the representation of the celt, a relief figure of an ox head. On each side of this is a conventionalized elephant's trunk terminating in a hand which holds upright by its handle a three-pronged object.

This group obviously represents a ceremony. The male whose arms are supported is doubtless the king or some high noble, as we know both from history and from many representations on the plaques that on state occasions they appeared thus supported. I owe to Mr. S. J. Guernsey the suggestion that the square aperture in the pedestal immediately in front of the king represents a sacrificial pit. Native traditions of Benin give us the following account of the sacrifices made on the anniversary of the death of Adolo, the father of the king Overami: "For this the great sacrifice of the year, 12 men were taken, 12 cows, 12 goats, 12 sheep, and 12 fowls. The offerings were brought into the big compound, and put in line in front of and facing the altar. Then Overami, dressed in very fine clothes, came in, and calling Adolo his father very loudly by name, said like this: 'Oh, Adolo our father, look out after all Ado! Don't let any sickness come to us. Look after me and my people, our slaves, cows, goats, and fowls, and everything in the farms.' Then the men who were in front were led to the well at the back of the compound, with gags tied in their mouths, and held each by four strong men. The executioners cut off their heads, which, with the bodies, were thrown into the pit. The animals were killed near the altar, and the blood from them was sprinkled on the big ivories and brass work. The beef was then distributed among the people"; Read and Dalton, *op. cit.*, p. 6 sq.

It seems probable that this group represents the king and his female attendants standing behind the sacrificial pit, witnessing the decapitation of human victims whose heads and bodies are thrown into the pit. The significance of the stone celt in front of the square aperture is doubtful. Read and Dalton consider the celt a symbol of Shango, the god of thunder and lightning; *op. cit.*, p. 11. The wedge-shaped object in front of the celt — with its sharp edge upward — may be the beheading block. But it seems improbable that the female figure in front with the iron ceremonial sword is an executioner.

I am indebted to Dr. F. H. Sterns for calling to my attention a bronze group closely similar to ours figured by A. Franz, *Die Entdeckung der Bronzegötter von Benin* (Helhagen und Klasings Monatshefte, Band 2, Leipzig, 1898, p. 233). This group consists of a king with eight female attendants. The two in the rear hold shields over the king's head; one on either side of him supports his arms; the pair

immediately in front of the king carry double-edged swords; while those at the extreme front of the group carry fan-like objects. Between the front pairs is the square pit. There is some small object in front of it, but its character cannot be determined from the poor cut. The rear pair of attendants are about as tall as the level of the king's eyes; the two at his side come up to the level of his mouth; the next to his shoulders; the front pair only to his arm-pits. All, however, are adults, as is shown by their pendant breasts. The base is very high, about two thirds of the king's height. On the front of the base is a reticulated ornament in relief.

In the British Museum collection there is a cylindrical bronze pedestal with a group of figures on top, consisting of a king with four attendants and two leopards; Read and Dalton, *op. cit.*, pl. 9, fig. 2 and p. 42, sq. The dress of the king is similar to that of the man in our group. He holds in each hand a ceremonial knife, with the points on the ground on each side of a square aperture. His hands are supported by two kneeling attendants, behind whom stand two women with crested caps and loin cloths of network. Two leopards stand at the sides of the square hole, and between them is what appears to be a polished stone ax-head. Behind the king is an oval hole. On the side of the pedestal is a king (?) similarly dressed, his arms supported by attendants, and holding in one hand a rattle and in the other an ax-head. Other attendants hold shields over the king's head; two hold staves and axes, while at the back is a female figure dressed much like the king (?) in our group, and flanked by female attendants, two of whom hold fans. In front on the lower zone is an ox head flanked by two human hands and two leopards. There are also two arms issuing from elephants' heads and various other objects on a background ornamented with a continuous S-design.

Another pedestal in the same collection (pl. 9, fig. 1) has on its sides a female figure dressed much like the king (?) in our group, with her hands supported by female attendants with fans. Other female attendants appear on the sides and back of the pedestal, in addition to two males.

Two bronze groups on rectangular pedestals similar to ours are figured by Ling Roth in sketches too small to show much detail; Ling Roth, *op. cit.*, p. 109, figs. 105, 106; p. 233, fig. 273. One of these (fig. 105) has two leopards and eight human figures disposed in pairs. At the front are the two leopards facing each other as in the British Museum example. Behind them stand two attendants with pot helmets, staves in the right hand, and axes in the left. Behind these are two pairs of mitered dignitaries with shields, and at the back a pair of attendants apparently naked. Although the sketch does not show these details, it seems probable that the polished stone ax lies between the two leopards, and that the square aperture is also to be found back of the celt. The front of the base has a design in relief of ox heads alternating with inverted leopard heads on a braided background.

It thus seems probable that our group is only one of a class representing the central figures in sacrificial ceremonies, the square holes being the pits into which the bodies of the victims were thrown. The representations of polished stone celts occur in a way which leaves no doubt that they were intimately connected with the rites. On the other hand, a small bronze group in the Pitt Rivers collection seems to represent the prospective human victim and the guards or executioners. The front figure of the group is kneeling with hands as in the attitude of prayer. The upper part of the body is bare; there are no tribal cicatrizations; the lower part is covered by a pleated skirt like those usually represented as worn by Europeans. Around the waist is a belt of ropes with two loops behind, in one of which hang two links of a chain. Behind are two standing figures in the usual Benin dress, armed with swords in sheaths. On the ground are three decapitated human heads, face upwards, and a dog; Pitt Rivers, *op. cit.*, p. 84, pl. 42, figs. 324, 325. The victim who was to be decapitated was often made to kneel down; Captain Roupell, Legroing and Balon, and Beauvais cited by Ling Roth, *op. cit.*, p. 71, 76, 80. Usually the hands of the victim were tied behind his back and often he was gagged. It is possible that the kneeling figure in the Pitt Rivers group is begging for his life, supplication of this sort being sometimes permitted to the victim. In that case the ropes round the waist with the loops behind would represent the fastenings for the hands. At a yam festival celebrated by the war captain in 1787, and witnessed by Beauvais, mention is made of the hole containing the offerings made in the center of the

ground in front of the altar, and it is possible that the square aperture in the pedestal represents this. Again Legroing and Balon in describing the coral feast mention the fact that the king "stood on the lowest step of the tomb and everyone stood upright in two parallel lines, the first places reserved for us. Then an unfortunate man with a gag in his mouth was brought in and made to kneel down, whereupon one of the grandees, armed with a club, dealt him a blow on the head, and as the blood flowed out, the negroes called fiadors hastened up with the bunches of coral, which is the royal ornament, to make them touch the bleeding head"; Ling Roth, *op. cit.*, p. 76. The dignitary presiding over the sacrifice is stated by most of the accounts to have been accompanied by some of his wives, who stood near him, sometimes on either side of the altar. The fetish object was usually stained with the blood of the victim. Stone axes are still venerated in Yoruba and thus daubed; Read and Dalton, *op. cit.*, p. 11.

If the Pitt Rivers group were placed so that the kneeling figure fronted our group, we should have the complete representation of a sacrificial scene: the king and his wives ranged about the sacrificial pit or receptacle for offerings; in front of this hole the stone ax, symbol of Shango, destined to be sprinkled with the blood of the victim; immediately in front of the ax an execution block (?); facing the royal group, the kneeling victim in foreign or possibly European dress in an attitude of supplication, with the executioners behind him.

Fig. 8. Cat. no.  $\frac{B}{1485}$ , P. M. Height 17.5 cm.

Brass human mask with gable-shaped headdress having a reticulated open front, ornamented with bead rosettes representing agate or coral. Below the gable the brow is encircled by five rows of small cylindrical beads decorated with larger beads disposed horizontally. The face has negroid features but is not prognathous. Three vertical tribal cicatrizations are disposed over each eye, and a copper inlay of triangular shape occupies the glabella region. An extension from the apex of this inlay runs down the bridge of the nose. The inlay has a triangular eminence just above glabella, and the rest of the surface is cross-hatched. The pupils of the eyes are inlaid with iron. Around the neck is a frill decorated with conventionalized mud fishes, some of which are fastened by bronze nails. Beneath these are eyelets from which bells were probably suspended.

This is a common type of Benin ornament. Similar or almost identical brass masks are found in the British Museum; Read and Dalton, *op. cit.*, pl. 11, fig. 3: in the Pitt Rivers collection; Pitt Rivers, *op. cit.*, p. 30, pl. 15, figs. 86, 87: in the Museum of the University of Pennsylvania; The Museum Journal, vol. 3, no. 3, Sept., 1912, p. 78, fig. 41: in the Bankfield Museum, Halifax, England; Ling Roth, *op. cit.*, p. 34, figs. 47, 48.

Fig. 9. Cat. no.  $\frac{B}{1486}$ , P. M. Height 18.7 cm.

Human mask of brass. The headdress is reticulated and decorated with rosettes, probably representing agate beads. Three tribal marks over each eye. The pupils of the eyes are inlaid with iron. The features are negroid but not prognathous. Around the neck is a collar like a ruff, edged with eyelets from which bells were probably suspended.

This type of mask is also common. It is represented in the British Museum; Read and Dalton, *op. cit.*, pl. 11, figs. 1, 4: in the Pitt Rivers collection; Pitt Rivers, *op. cit.*, pl. 21, figs. 124, 125, 126, 127: in the Museum of the University of Pennsylvania; The Museum Journal, loc. cit.: in the Leiden Museum; R. Marquart, *op. cit.*, p. 37, qq.

Fig. 10. Cat. no.  $\frac{B}{1487}$ , P. M. Height 22.7 cm.

Solid bronze figure of standing warrior. The casting is so defective that the details of the body and dress are largely obscured. The face is negroid and prognathous. The headdress is an elaborate triangular affair with representations of agate ornaments. Around the neck is represented a string of canine teeth, probably those of leopards. The warrior is clad in a leopard skin garment, and there are traces of the usual loin cloth tucked up on the left side. The right hand holds a shield and spear. The shield is roughly trapezoidal in shape and bears a peculiar design, a rectangular space being delimited in the center by ridges. The space between this area and the edges of the shield is ornamented with ridges perpendicular to the sides, the rays extending alternately from the edges of the shield and from the central area. In the central space is a raised lozenge with scrolls at the upper and lower extremities. The casting of the left hand and arm, and of the objects grasped is faulty, but the latter were probably intended to represent a pair of javelins.

A somewhat similar and much better bronze figure is in the Pitt Rivers collection. The warrior carries two javelins in the right hand and a shield in the left. He wears a leopards' teeth necklace and a leopard skin dress; Pitt Rivers, *op. cit.*, p. 16, pl. 8, figs. 41, 42. The British Museum also possesses a similar figure; Read and Dalton, *op. cit.*, pl. 11, fig. 7. Cf. also description of a figure in the Leiden Museum; J. Marquart, *op. cit.*, p. 20 sqq.

Fig. 11. Cat. no.  $\frac{B}{1488}$ , P. M. Height 12.5 cm.

Small bronze figure of a man standing. It was originally part of a bronze group, and has evidently been sawed out of a larger bronze pedestal, a portion of the design on the sides of which appears on the left of the mutilated base of the figure. The figure is that of a man with negroid features, but only slightly prognathous. On the head is a pot helmet with a brim and reticulated ornament. There is no tattooing on the face. He wears a necklace of one row, apparently consisting of large conical beads strung base to base. On the breast a cross hangs from a cord passed round the neck. Below this cross is a round disk. There is a similar disk or button between the shoulder blades. The vertical cicatrizations on the body are unusually extensive. There are five on the ventral surface and five on the dorsal. Each series consists of a median vertical line flanked on either side by two other lines which, in the ventral series, extend straight upward from the waist to the nipples. From there they follow the outward curve of the pectoral muscles and are prolonged down the anterior surface of the arm almost to the elbows. In the dorsal series the outer lines are prolonged down the posterior surfaces of the arms. On the shoulder, between the two series of lines, is a V-shaped mark with a line prolonged down the arm from the apex, so that the entire effect is similar to that of a broad-striped coat with the stripes converging at the shoulder seam.



The loin cloth is tucked up at the left side and ornamented in the usual fashion. A string of beads is worn on each ankle, and a seven-rowed armlet on each wrist.

In the right hand is a staff, most of which has been broken away, while in the left is an ax.

Two figures very similar to this one are to be found in the Pitt Rivers collection; Pitt Rivers, op. cit., p. 30, pl. 15, figs. 90, 91; p. 76, figs. 293, 294. Ling Roth figures by a small and inadequate sketch a bronze group mounted on a rectangular pedestal; Ling Roth, op. cit., p. 109, figs. 105, 106. Two of the figures in this group wear pot helmets and carry staves in their right hands, and axes in their left hands. If the left hand figure were sawed out of the pedestal, the square portion of the base left about the feet of the figure would include a part of the design on the side of the pedestal such as is seen in our specimen.

Fig. 12. Cat. no.  $\frac{B}{1489}$ , P. M. Height 17.7 cm.

Bronze figure of negroid warrior on horseback. The workmanship is very crude. Both horse and rider are attenuated, and the body and head of the man are disproportionately long. The rider has a conical headdress and wears a necklace with a large pendant. He has a ring about his waist which probably represents a string of coral or agate beads. He also wears a short petticoat. In his uplifted right hand is an ax, and his left hand grasps the single twisted rein of the bridle. He is seated in a high-backed saddle with no pommel. The horse is very summarily treated. Apparently the figure was originally mounted on some sort of bronze pedestal, as portions of the base, uniting the front and hind feet respectively, are preserved and have been squared off.

In the Pitt Rivers collection is a bronze of similar style and technique, but somewhat more elaborate. The horse is mounted on a pedestal, and the rider has a shield, sword, and javelins; Pitt Rivers, op. cit., p. 78, pl. 39, figs. 299, 300. In the same collection other ivory carvings of figures on horseback exhibit a like disproportion between the size of rider's head and body on the one hand, and the size of the man's legs and the size of the horse on the other; Pitt Rivers, op. cit., p. 10, pl. 5, figs. 19, 20, 21, 22, 23, 24.

A much better bronze figure of a man on horseback is also seen in the Pitt Rivers collection; Pitt Rivers, op. cit., p. 26, pl. 13, figs. 79-81.

An Ashanti figure of a warrior on horseback resembles our specimen in the twisted single rein and in general crudeness of technique; R. Zeller, *Die Goldgewichte von Asante (Westafrika)*, Baessler-Archiv, Beiheft 3, Leipzig and Berlin, 1912, pl. 19, fig. 487.

Figs. 13, 14. Cat. no.  $\frac{B}{1490}$ , P. M. Total height 23.1 cm.

Cylindrical wooden execution block elaborately carved. On top is a wooden spike 10.3 cm. high and pointed at the end. Upon this the forehead of the victim was supposed to rest. There are no thumb rests on the top of the block such as may be seen on other examples. A band of broken guilloche pattern runs round the top of the block, and the central space is filled with two diagonally superimposed squares. On the sides of the block a conventionalized design is carved in high relief. The central object on the front may possibly represent the head of a horned animal; otherwise the involved design seems

inexplicable. Below the carved figures a rattan withe, on which cowries are strung, is tightly bound round the block. Beneath this string the block is carved with a basal band of broken guilloche pattern.

This execution block is stated to have been found "in the king's compound" on the taking of the city by the British punitive expedition in 1897. Two similar execution blocks are in the Pitt Rivers collection; Pitt Rivers, *op. cit.*, p. 68, pl. 34, figs. 258, 259, 260; p. 86, pl. 43, figs. 333, 334, 335. Both of these are much more elaborately carved than the example figured above. They are also considerably larger. One of them (*Ibid.*, figs. 258, 259, 260) has a double row of cowries bound round the base of the spike. In each the design on the top of the block is like that of our example except that there are places for the victim to rest his thumbs. On the sides of the blocks are carved human figures in place of the problematical design on our specimen, though the back of the specimen with the cowries shows elements which may be recognized on our block; *Ibid.*, fig. 260. The other execution block in the Pitt Rivers collection is provided with a semicircular wooden stand elaborately carved. Both of these specimens have broad guilloche patterns carved round their bases, while ours has a broken guilloche pattern in the same place.

Fig. 15. Cat. no.  $\frac{B}{1491}$ , P. M. Height 10.2 cm.

Brass bell, with incurving lower edges ornamented with a bead pattern. On the front is a degenerate human face design with horizontal marks across the nose.

A somewhat similar bell is figured in the Pitt Rivers collection; Pitt Rivers, *op. cit.*, p. 24, pl. 12, fig. 74. An almost identical specimen in the same collection has the eyes converted into loops; *Ibid.*, p. 64, pl. 32, fig. 239.

Fig. 16. Cat. no.  $\frac{B}{1492}$ , P. M. Height 11.7 cm.

Bronze bell, edges ornamented with raised cord pattern with knots at corners, front and back with cast wheel pattern, sides reticulated. On the front there is a degenerate human head design in relief.

Fig. 17. Cat. no.  $\frac{B}{1493}$ , P. M. Height 14.4 cm.

Bronze bell with cord and knot ornament along edges and at corners; sides and back ornamented with punched circles; degenerate human head on front.

Fig. 18. Cat. no.  $\frac{B}{1494}$ , P. M. Height 10.3 cm.

Bronze bell ornamented with quadrille pattern. On the front is a raised loop with the extremities terminating in spirals.

Cf. Pitt Rivers, *op. cit.*, p. 64, pl. 32, fig. 240.

Fig. 19. Cat. no.  $\frac{B}{1495}$ , P. M. Height 13.8 cm.

Bronze bell of unusual pattern. It is oval in section instead of square and the clapper hangs from a leather thong knotted round the base of the handle. The ornamentation

consists of two parallel double cord patterns in relief, running from the base of the handle to the bottom of the bell, behind and in front. The top of the bell has a flatter oval section than the bottom, and there is a cord design on each of the shoulders of the bell thus formed. On each of the sides of the bell, just above the bottom, is a single spiral in relief.

Fig. 20. Cat. no.  $\frac{B}{1496}$ , P. M. Height 15.7 cm.

Bronze bell. On the front and sides is a pattern consisting of diagonal grooves between which are short hatched lines. The back is unornamented. On the front is a raised disk with curved lines upon it. A roughly cast clapper is suspended from a spring cotter, the ends of which pass through a hole in the top of the bell. There are many flaws in the casting.

Fig. 21. Cat. no.  $\frac{B}{1497}$ , P. M. Height 15.5 cm.

Bronze bell with engraved ornament. The edges are raised cords with knots at the corners. On each of the sides is a panel enclosed by a ridge, and the spaces between the panel and the raised cord edge are filled with an ornamentation made in the casting, consisting of depressed circles with raised centers. The fields of the panels are engraved; on the front with an imbricated design in which the alternate scales are ornamented with punched dots; on the sides and back with a series of three lozenges superimposed on a series of three circles, the whole being on a *pointillé* background. On the front panel is a negroid head in relief. The clapper is fastened as in the example just described.

Similar bells are in the British Museum; Read and Dalton, op. cit., pl. 6, fig. 9, and p. 40: in the Leiden Museum; J. Marquart, op. cit., pl. 5, fig. 4, and p. 47: in the Pitt Rivers collection; Pitt Rivers, op. cit., p. 24, pl. 12, fig. 73.

Fig. 22. Cat. no.  $\frac{B}{1498}$ , P. M. Height 12.7 cm.

Bronze bell with sides, front, and back ornamented with panels in relief, having looped corners. In the middle of the front panel is a head in relief with degenerate hands protruding upward from the sides of the head and downward from the sides of the chin. The clapper is fastened as in the preceding specimens.

Fig. 23. Cat. no.  $\frac{B}{1499}$ , P. M. Height 13.4 cm.

Half oval bronze plate edged with rings and bearing in relief a female figure holding up in the right hand a problematical square plate, possibly a mirror. She wears a headdress of closely woven beads, which has a crest of spikes radiating from the median sagittal line, and two long side pieces falling upon the shoulders. At the back of the headdress is a ring for suspension. The face is negroid, but not prognathous. Around the neck is a bead collar of five rows, and outside of it is a large thick ring, probably made to repre-

sent beads. The rest of the costume consists of crossbelt, short petticoat, armlets, and anklets, all apparently made of beads.

An apparently identical ornament in size and design is in the British Museum; Read and Dalton, *op. cit.*, pl. 11, fig. 5; cf. also fig. 8. Another example is in the University of Pennsylvania Museum; *The Museum Journal*, *loc. cit.*

Fig. 24. Cat. no.  $\frac{B}{1500}$ , P. M. Height 8.2 cm.

Fragment of bronze aegis, similar to the preceding, showing upper part of woman with conical bead cap and cheek pieces, thick neck ring and crossbelt. The woman holds in the right hand a stick with which she beats a bell-shaped gong held in the left. The features are negroid and prognathous.

There is a similar aegis in the Pitt Rivers collection; Pitt Rivers, *op. cit.*, p. 76, pl. 38, fig. 292. A complete aegis with an almost identical design is also to be found in the University of Pennsylvania Museum; *Univ. of Penn.*, *The Museum Journal*, *loc. cit.*

Fig. 25. Cat. no.  $\frac{B}{1501}$ , P. M. Height 14.8 cm.

Brass object in form of woman's head and upper part of body — possibly a knife handle. The base is hollow, and a piece of iron which may represent the tang of a blade is firmly fixed in a hole at the bottom of the hollow. On the top of the head is a cylindrical projection 2.8 cm. long and pierced transversely with a round hole suitable for a suspension cord or for a pin. In general style and technique the figure is unlike other Benin brass work. The eyes bulge outward to such an extent that they form the most prominent feature of the face. The eyelids are represented by deep horizontal slits cut across the bulging eyeballs. Similar technique in the representation of the eyes may be seen in modern West African figures from the Yoruba country, Ashanti, and elsewhere. Between the base of the nose and the protruding lips has been cut a deep V-shaped fissure and there are many parallel vertical scratches on the face. The hair is dressed in a sagittal crest with a roll or cord bound round the edges so that the whole resembles a Scotch cap. The body is disproportionately small, and the rudely formed hands are supporting the breasts.

In the Pitt Rivers collection is a curved iron knife with the upper part of a female figure forming the handle; Pitt Rivers, *op. cit.*, p. 56, pl. 28, figs. 186, 187. The technique seems not unlike that of our example.

Fig. 26. Cat. no.  $\frac{B}{1502}$ , P. M. Length 25.6 cm.

Handle and portion of blade of brass dancing sword or wand said to have been used by the Bini virgins in their dances. It is ornamented with two figures. Above is a negroid person with the usual tribal marks, wearing a bell-shaped helmet with a feather on the right side, a choker, and a beaded band across the left shoulder. The band passes

diagonally down to the waist on the right side. The figure also wears a loin cloth looped up at the left side, and grasps with both hands a ceremonial sword. Below is another negroid with a bead headdress, a necklace, and the usual looped-up loin cloth, also represented as carrying a sword. The grip between the two figures is square in section, and is ornamented with an engraved design consisting of incised lozenges with circles in the centers, alternating with horizontal hatched bands. The edges of the grip are notched between the bands and the lozenges in such a way as to throw into partial relief the contours of the latter. The fragment of the blade is decorated with an incised guilloche pattern running along each edge.

A very similar object is described as a part of the Pitt Rivers collection; Pitt Rivers, op. cit., p. 58, pl. 29, fig. 202; cf. also figs. 203, 204, 205, 206, 207. Cf. also similar objects in the British Museum; Read and Dalton, op. cit., pl. 11, figs. 10, 11, and p. 45: in the Leiden Museum; J. Marquart, op. cit., pl. 6, figs. 2, 3, 5, 6, and p. 51, sqq.

Fig. 27. Cat. no.  $\frac{B}{1503}$ , P. M. Length 91.8 cm.

Leaf-shaped iron ceremonial sword or *ebere* with a ring 18 cm. in diameter perpendicular to the plane of the blade. The short handle terminating within the ring consists of an iron core covered with four iron braids, in each of which one element ends in a scroll and the other is turned back into the adjoining braid. The iron ring is cruciform in section and has a twist in each side opposite the end of the handle. Below the ring the handle is oblong in section, and where it broadens out it is welded to the blade and a flat plate on each side is riveted to handle and blade by way of reinforcement. The blade has a central rib and is decorated with a pattern of holes. Near the point it has been broken away and the riveted plates on both sides show where repairs have been made. The blade has an average thickness of one millimeter. The sword could not have been used as a practical weapon.

Similar ceremonial swords are in the Pitt Rivers collection; Pitt Rivers, op. cit., p. 84, pl. 42, figs. 326, 327; p. 86, pl. 43, figs. 328, 329: in the Leiden collection; J. Marquart, op. cit., p. 50, pl. 6, fig. 4. They are very commonly represented on the plaques and in the ivory carvings and bronze groups. In recent times these swords were often made for the natives in silver plate by European firms; Ling Roth, op. cit., p. 60.

Fig. 28. Cat. no.  $\frac{B}{1504}$ , P. M. Length 60.0 cm.

Part of a brass staff with a design consisting of alternate balls and knots.

In the Pitt Rivers collection is a complete staff of office, the middle portion of which is cast in the same design; Pitt Rivers, op. cit., pl. 25, figs. 161, 162, 163, and p. 51.

Fig. 29 and text fig. 1. Cat. no.  $\frac{B}{1505}$ , P. M. Length 13.5 cm.

Wooden object carved from one piece, consisting of two blades with blunt ends, straight backs, and convex edges united at their bases edge to edge. At the point of

juncture on each side are two heads carved in relief, and from the middle of the base protrudes a wooden handle with a disk pommel surmounted by a wooden loop. The handle is carved with a simple incised pattern. The heads have negroid features but are not prognathous. Small nails have been driven in as eyes. On the faces there are three vertical incisions over the eyes, and three horizontal incisions on each cheek, apparently representing scarifications. The object has a modern appearance.

A part of the official dress of the Oba or king of the Bini was the *erigo*, a two-forked instrument held in his left hand; R. E. Dennet, *At the back of the black man's mind*, London, 1906, p. 175. This instrument is represented in a wood carving in the British Museum; Read and Dalton, *op. cit.*, pl. 8, fig. 3. It is a large bifid object with carved blades terminating in clenched hands, and a handle and pommel like a sword. It is held with the carved hands upward. On another part of the same carved table the king is represented with an object in the left hand which resembles an elephant's head or a conventionalized mud fish. Again on a carved slab in the Pitt Rivers collection the king holds in his left hand a bifid object similar to that on the British Museum specimen first described; Pitt Rivers, *op. cit.*, p. 121, pl. 6, fig. 27.

In the Leiden Museum are two small gold models of double-bladed ceremonial swords from Ashanti, which somewhat resemble our wooden object; R. Zeller, *op. cit.*, pl. 8, figs. 209, 211, and p. 59 sq. Such twin swords are said to have been used by the kings and priests for fetish purposes. Small bronze objects of a similar character from Ashanti may be seen in the University of Pennsylvania Museum. It therefore seems probable that both the representations of bifid objects in the Benin sculptures, and our wooden specimen are double-bladed ceremonial swords.



Text fig. 1.

Fig. 30. Cat. no.  $\frac{B}{1506}$ , P. M. Length of bar 16.1 cm.

Cruciform bar pin of brass. The cross bar is inlaid with polished pieces of red agate (?) held in place by a pitchy substance. The head of the pin is similarly inlaid.

In the Science and Art Museum of Philadelphia is a curious Bini finger ring with a bar ornament similarly inlaid with coral; Ling Roth, *op. cit.*, p. 30, fig. 32.

Fig. 31. Cat. no.  $\frac{B}{1507}$ , P. M. Length 18.0 cm.

Small knife with brass handle and curved iron blade.

Fig. 32. Cat. no.  $\frac{B}{1508}$ , P. M. Length 13.6 cm.

Brass object like a three-tined fork with a ring at the end of the handle. Perhaps a native imitation of a European fork.

Fig. 33. Cat. no.  $\frac{B}{1509}$ , P. M. Length 15.4 cm.

Large brass key with cord ornament on handle.

Very similar to a specimen in the Pitt Rivers collection; Pitt Rivers, *op. cit.*, p. 40, pl. 20, fig. 115.

Fig. 34. Cat. no.  $\frac{B}{1510}$ , P. M. Length 28.5 cm.

Left hand and arm of ivory statuette. The ivory is much weathered and very deeply patinated. The knuckles have been scorched and the thumb has been broken off. As in other ivory statuettes from Benin the hand is disproportionately large. The four clenched fingers are of equal lengths, and the terminal phalanges are excessively long. At the base of the arm is a tenon in the shape of a truncated pyramid, the sides of which are so disposed in relation to the plane surface of the base, that it is evident that the arm did not hang parallel to the body of the figure to which it was attached but was carried at an angle of at least 45° from the sagittal plane. The tenon was fixed into the socket by one or more nails. The trace of a nail hole is visible on the broken end of the tenon.

The Pitt Rivers collection contains an ivory statuette with the arms missing, and with almost square sockets on each side into which the arms were fitted and fastened by bronze nails, one of which remains; Pitt Rivers, *op. cit.*, p. 52, pl. 26, figs. 164, 165. The figure is about the right size for the accommodation of this arm, and the weathered condition of the arm corresponds to the condition of the statuette as described and figured by Pitt Rivers.

A label attached to the arm states that it is the "hand and arm of the great god before whom thousands of victims were sacrificed, deeply stained with human blood. Taken by Private F. Chandler, R. M. S. S., from the King's Compound on Feb. 18th, 1897, 11½ inches long [*sic*]."

A seemingly identical left arm from an ivory figure is in the collection of the Leiden Museum. It is almost exactly the same size as our specimen, but is not so well preserved. Marquart wrongly describes it as a fore-arm; J. Marquart, *op. cit.*, pl. 10, fig. 3, and p. 66.

Fig. 35. Cat. no.  $\frac{B}{1511}$ , P. M. Length 32.4 cm.

Bronze hilted dagger with iron blade. Just below the guard are two round holes in the blade, one near each edge, and about 2.5 cm. farther down are two similar holes in corresponding position. Near its end the blade swells out to a heart-shaped form, and at the widest portion of this terminal enlargement are two more holes near the edges and approximately opposite. These holes may possibly have contained copper inlays, such as were common in Benin blades.

Fig. 36. Cat. no.  $\frac{B}{1512}$ , P. M. Length 29 cm.

Iron dagger, with wooden handle wound with bands of brass and iron. The leaf-shaped blade has a median elevation and bears a simple engraved design.

An almost identical dagger with a sheath is to be found in the Leiden Museum: J. Marquart, *op. cit.*, pl. 8, figs. 1, 2, and p. 60 sq.; cf. also in the Pitt Rivers collection a knife of similar shape: Pitt Rivers, *op. cit.*, pl. 28, figs. 188, 189, and p. 56; and in the same collection a knife with a similarly bound handle; *Ibid.*, pl. 28, figs. 198, 199.

Fig. 37. Cat. no.  $\frac{B}{1513}$ , P. M. Diameter 9.4 cm.

Bronze bracelet consisting of two parallel rings joined together. On the front is a negroid head in relief, flanked by curiously shaped studs and projections. A pair of

canoe-shaped studs may have been designed to receive coral or agate inlays. On the back of the bracelet are two snakes represented in relief.

Fig. 38. Cat. no.  $\frac{B}{1514}$ , P. M. Diameter 9.6 cm.

Brass bracelet ornamented with heads in relief and a simple incised design.

A bracelet constructed of two parallel rings like the preceding specimen, and similarly ornamented with heads, is figured by Ling Roth, *op. cit.*, p. 29, fig. 26. Cf. also another in the Leiden Museum; J. Marquart, *op. cit.*, p. 44, (8).

Fig. 39. Cat. no.  $\frac{B}{1515}$ , P. M. Diameter 9.9 cm., height, 13.3 cm.

Carved box made out of a coconut shell. The greater part of the surface of the lower portion is occupied by a carving representing a man leading an ass by a halter. The man apparently wears a coat, long trousers, and boots with high heels. On the rest of the surface are carved a bird, a leaf, and some triangular designs. On the cover are carved two men back to back, and apparently also clad in coats, long trousers, and boots with high heels. One seems to be pulling in a rope which is attached to the middle of a rectangular object — perhaps a net. The other has a similar object at the end of a long pole or rope. The man stands on one side of the coconut, and the pole or rope runs over the summit of the nut and is attached to the middle of the rectangular object on the other side. The rest of the top is occupied by the carving of a snake and by isolated trapezoidal designs put in to fill up the undecorated spaces. The carvings are in low relief.

In the Pitt Rivers collection are two more elaborately carved coconut shells exhibiting a similar technique; Pitt Rivers, *op. cit.*, p. 60, pl. 30, figs. 217–221. Both Europeans and natives are represented. Two other specimens are figured by Ling Roth, *op. cit.*, p. 211, figs. 237, 238, 239; p. 212, figs. 240, 241. A good deal of this work is unquestionably modern. One of the specimens (figs. 238, 239) was specially carved for Mr. Cyril Punch not long before the capture of the city.

In the worship of Ifa, the great oracle of the Yoruba country, a prominent object is the *igbadu*, a covered calabash containing four small vessels made from coconut shells cut into two pieces in the middle. These hold, besides substances unknown to the uninitiated, one a little mud, another a little charcoal, another a little chalk, and another a little camwood, all of which are intended to represent certain divine attributes. This calabash is deposited in a specially prepared wooden box, which is worshiped and never opened except on very special and important occasions, and then not without washing of hands and sacrifice; Dennet, *At the back of the black man's mind*, Appendix, p. 253.

Our example may have been designed for such a purpose, although the character of the representations on it would militate against such a theory. Probably such coconut vessels were used in Benin for secular purposes also.

Text fig. 2. Cat. no.  $\frac{B}{1516}$ , P. M. Length 1.33 m.

Wooden rattle found in an altar house in the king's compound. At the top is a rudely carved human head with the hair dressed in three balls. The



Text fig. 2.



features are roughly indicated, and the back and sides of the head are incised with parallel vertical and horizontal grooves, so as to leave raised rectangles. The whole of the rattle is designed to represent a bamboo and only the alternate sections are ornamented. The first section is hollow, and has three rectangular slots running from top to bottom, and a cylindrical piece left inside to serve as the rattle. The outside of this section is ornamented with square and oblong strips in relief, the grooves being filled with red coloring matter. The second carved section has a conventionalized human figure in relief, and the background is smeared with red ocher. The third carved section has an unintelligible design standing out against red color. The entire rattle is said to have been found caked with blood, but the coloring matter now on it is apparently red ocher.

Rattles of this character were placed on the altars in Benin city and were used in the ceremonies; Ling Roth, *op. cit.*, p. 70, fig. 75. They were made either of wood or ivory, and were struck upon the ground during ceremonies in order to call attention to the spirits invoked (*Ibid.* p. 72, fig. 76, in which a rattle similar to our specimen is figured). In the British Museum is an example in ivory said to have been used by the late king Overami to indicate the person or animal to be sacrificed; Read and Dalton, *op. cit.*, p. 42, pl. 8, fig. 4. In the Pitt Rivers collection are some brass maces with slits and a rattle in the upper part; Pitt Rivers, *op. cit.*, p. 22, figs. 66-72; p. 50, pl. 25, figs. 161, 162, 163. The Leiden Museum has a wooden rattle, bamboo-shaped, and terminating in a clenched fist; J. Marquart, *op. cit.*, p. 73.



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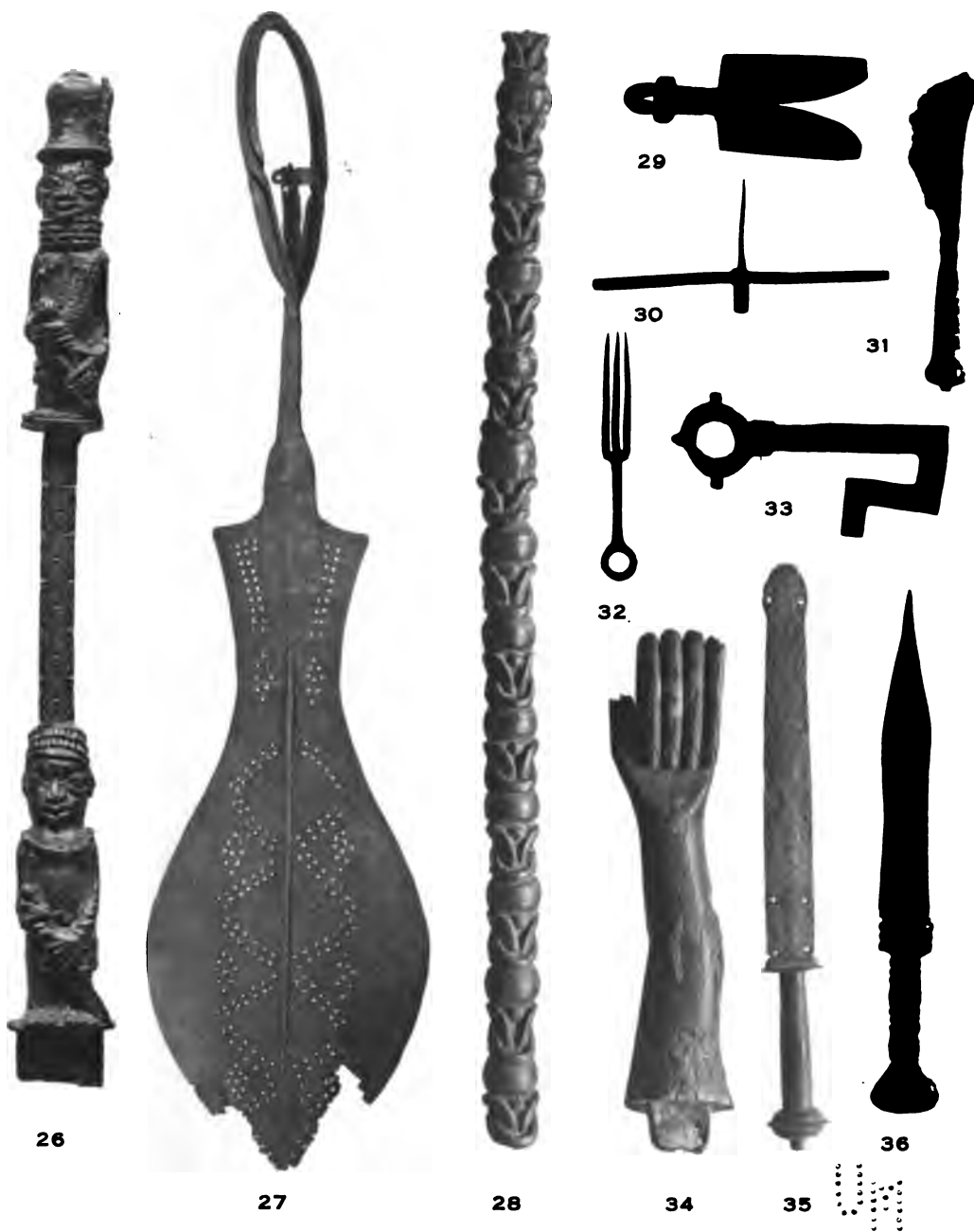


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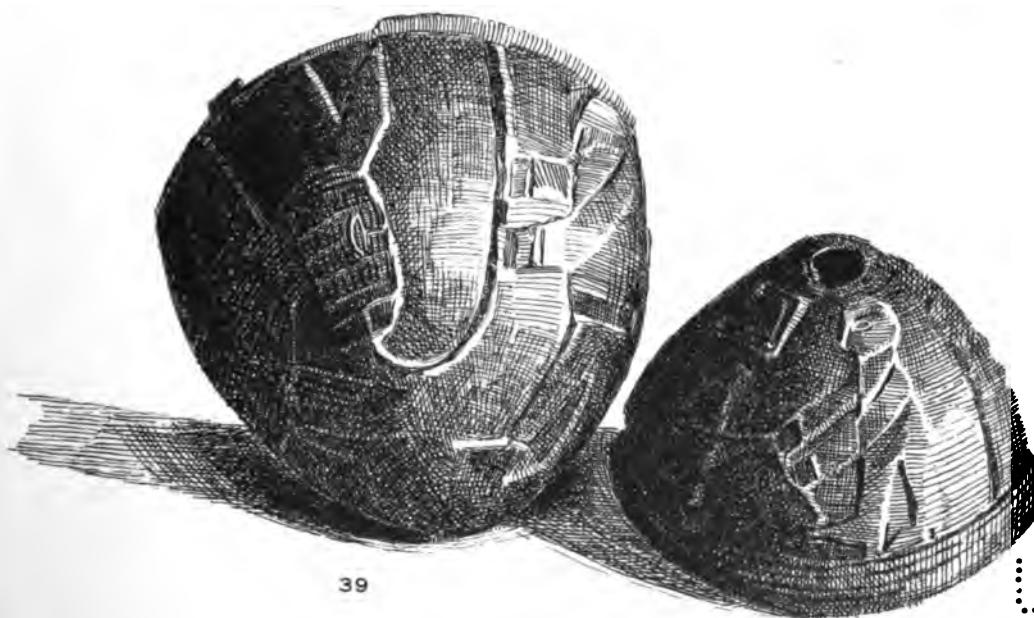
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## THE UTENDI OF MWANA KUPONA

ALICE WERNER

### Introductory notes

The author of the following poem, Mwana Kupona, lived at Shela, in the island of Lamu, and seems to have died there about fifty years ago. She was a native of Pate and married Bwana Mataka, son of Sheykh Baraka bin Muhammadi bin Omari, of an old Siyu family who believed themselves to be of Portuguese origin. Mataka, as his grandson informed me in December, 1912, died "sixty years ago" (i. e. in or about 1852). We may gather from the poem that his wife survived him for some years. The *utendi* was dictated on her deathbed to her eldest child, an only daughter, for whose instruction and guidance it was composed. I am informed that this daughter is still living at Lamu, at the age of about seventy three. She is known as Binti Shee, a designation probably to be interpreted as meaning "the sheykh's daughter". This appellation is not, of course, her personal name but an honorific given with reference either to her father or perhaps — since the latter seems to have been called not "Sheykh" but "Bwana" Mataka — to her grandfather. Binti Shee married a certain Abdallah Kombo, and has a son and a daughter. The former, now thirty seven or thirty eight years old, is Mudir of Mkonumbi; the latter, Siti Hadija, married twice. By her first husband, Sherifu Mngazija, she had one son, Said Muhammad. Her second husband was Muhammad bin Ali, of the Mazrui family of Mombasa. Binti Shee had four brothers, of whom two survive. Their mother refers to them in lines 79–80 of her *utendi*. For these particulars I am indebted to Muhammad bin Abdallah, the Mudir of Mkonumbi, who showed me much kindness and hospitality when I passed through his village on my way to Witu.

The remarks of a late writer to the effect that Swahili women are "remarkably indifferent to their religion and often unable even to repeat the Fathah"<sup>1</sup> is not borne out by the poem before us; and I must say that I found most of the Moslem women with whom I

<sup>1</sup> O. Baumann, *Usambara und seine Nachbargebiete*, Berlin, 1891, p. 56.



came in contact at Lamu, Witu, and Mambrui, extremely well instructed, considering their circumstances. They do not go to the mosques but, if at all devout, observe the hours of prayer at home. Schools for girls are sometimes kept by the wife or widow of a mu'allim, and in some cases an instructor is engaged by a girl's parents to come to the house.

The "Utendi wa Mwana Kupona" seems to be well known among the people of Lamu, and even elsewhere: copies are handed about in manuscript, and many know more or less of it by heart. It was first shown to me by Nana Chema binti Diwani, a lady of the house of Nabhan, the ancient royal family of Pate. A copy of her manuscript was made for me by Muhammadi bin Abubakari of Lamu, commonly called Muhammadi Kijuma, but his redaction was not entirely free from mistakes. These errors were pointed out and corrected, at a latter date, by Ahmedi bin Abubakari, resident at Mambrui, but a native of Siyu. Ahmadi did not possess a copy; his corrections were made entirely from memory (his own or his wife's), but certainly he sometimes makes sense of what would otherwise be nonsense. His *variae lectiones* do not, however, in every case commend themselves to me. I am also indebted for some help to Sefu bin Abdallah bin Saleh, of Lamu — a fellow-passenger on board the S. S. Goorkha — and to some of his friends, bound, like himself, for Mekkah. At a later date my transliterated copy was looked through and annotated in a very helpful manner by the late Abdul Alim bin Abderrahman Bakthir, an Arab clerk in the District Commissioner's office at Malindi.

The poem opens with a tender little address to the daughter — the usual formula about writing materials here being varied by little individual touches: —

Do this little thing for me — the end is not far off — come and sit beside me — receive instructions more precious than jewels — an ornament of grace to thy head and chains about thy neck — it will profit you for this world and the next.

Lines 12 to 14 emphasize religious duties; lines 15 to 21 are concerned with social intercourse and the duties of everyday life. Especially noteworthy is the warning against unnecessary gossip with servants and against associating with the ignorant and frivolous.

The statement (line 23) of the five duties owed by a woman leads on to the consideration of married life, which — with allowance for a little "local color" (e. g. lines 33, 34, and 38 to 41) — is remarkably like what some of our grandmothers might have said in similar circumstances — indeed some of it is universally applicable. Especially striking is the advice to "look after him [scil. the husband] as if he were an infant who cannot speak" (line 35). The following line seems to me not so much an exhortation to slavish obedience as an intimation that it is better to give way, if wronged, trusting your case to a Higher

Power, than to insist on your rights. There is a touching reference to her own happy marriage and irreparable loss in lines 51 to 55. Line 56 certainly insists on mutual love and forbearance. Lines 58 to 64 dwell on relations with friends and acquaintances, and the world in general:—

Beware of pride, don't be snobbish (line 62), be kind to the poor — love thou those who love you, and if there are any who dislike you, it may be possible to overcome them by kindness.

Here, with a little entreaty to her daughter not to disregard her words, she concludes her advice (line 66).

The remainder of the poem is a direct address to the Deity. She prays for herself, entreating help in her extremity, forgiveness of her sins, deliverance for all evil; for her children, for her brother and all her kinsfolk, and for "the whole of Islam". Not so much is said about a future life: Paradise (*peponi*) is mentioned twice and Hell only once (line 27) — a striking contrast with the way in which infernal torments are dwelt on in some of the Hausa poems collected by Canon Robinson.

The poem concludes with a statement (lines 92 and 93) of the reason why it was written, and an exhortation to all women (line 94 sq.) to read and profit by it likewise.

The "Utendi wa Mwana Kupona" is written in the same meter as the poem on Job of which a specimen is given by Steere.<sup>2</sup> Three short lines rhyme together, and are followed by a fourth of the same length, but with a different rhyme, which is continued throughout the poem.

<sup>2</sup> E. Steere, *Swahili tales, etc.*, London, 1870, p. 484.

## دُنْدِ وَمَانِ كُيُون

- ١ نَعْمَ وَخَ بِنْتِ ۚ مَخْلُوحَسْتِ ۚ وَبَلِكِ وَصِيَّةِ ۚ اَسَا اَكْرِفْتِيَا
- ٢ مَرْضِ يَمْنَشِيكَ ۚ حَتَّى يَمْتَمَ مَكَ ۚ يَسِيَّتْ كَمَكْ ۚ بِنِ لِمِ كَلْبِيَا
- ٣ نَدِي وَجَلِسِ ۚ نُونِ نَقَرَطِسِ ۚ بِنِ كَلَّتِ حَدِسِ ۚ عَمِيدِ كَلْبِيَا
- ٤ كَسَا كَلْتَرَبِ ۚ بِسْمِ اللّٰهِ كُتَبْ ۚ اُمِّيْ خَبِبْ ۚ نَحْبَرِ يَمِيَا
- ٥ وَكِسْ كُلِّ تَغْرِ ۚ اِنْ مَلَّ مَوْزِ ۚ بَسِلَتْ مَجْرَ ۚ مَنَعَتْ وَفَقِيَا
- ٦ مَانِ اَدَمُ سَكِتْ ۚ تَوْلِغْ سَوْتِ ۚ وَلَوْ هَلَنْ مَتْ ۚ اَبُوَا تَسْلِيَا
- ٧ مَنَعَتْ اَوْعَضِ ۚ يَمِيَا نَبِيْ رُضِ ۚ مَنَعَتْ اَتَكْحِفِضِ ۚ اَلِيُوَانِ نَبِيَا
- ٨ نَا اَنَلِبْ حُرِيَا ۚ وَنَفَعَتْ كُوزِ ۚ اَيِبْ تَعَزَزِ ۚ اَيِبْ كُيَغْلِيَا
- ٩ نَكْتَعِي كَدَبِ ۚ كَلَلْ مَرَبَانِ ۚ نَكْفِكْ مَدْرَشِ ۚ شَعْنِ كَلَزْخَا
- ١٠ بَدَلِبْ كَفُغْ ۚ كَزِرْ كِسْ اَغْ ۚ اَفِي كَتِدْ شَعْ ۚ وَتُونِ مَنَفَا
- ١١ نَعْ وَتَلِبْ شَكْ ۚ مَنَعَتْ هَتْ سَبَكْ ۚ دُنِيَانِ وَتَغْ ۚ نَا اَخِرْ وَتَكِيَا

### Utendi wa Mwana Kupona.

Negema wangu binti	mchachefu hasanati asaao kazingatia	upulike wasiyati
Maradhi yamenishika	hatta yametimu mwaka neni lema kukwambia	siyapata kutamka
Ndoo mbee ujilisi	na wino na karatasi nimependa kukwambia	nina katiti hadisi
Kwisakwe kutakarabu	Bisumillahi kutubu na sahabaze pamoya	umtae na habibu
5. Ukisa kulitangaza	ina la Mola muweza Mngu tatuwafikia	basi atupe majaza
Mwanadamu si kitu	na ulimwengu si wetu ambao atasalia	walau hakuna mtu
Mwanangu twaa waadhi	pamoya na yangu radhi akepuani na baa	Mngu atakuhifadhi
Twaa nikupe hirizi	uifungeto kwa uzi upate kuiangalia	uipe na taazizi
Nikutungie kidani	cha lulu na marijani shingoni kikizangaa	nikuvike mke shani
10. Penda nikupe kifungo	kizuri kisicho ungo utaona manufaa	uvae katika shingo
Yangu utakaposhika	mwanangu hutosumbuka na akhera utangia.	duniani utavuka

- ١٢ لَكَدَكْت دِيْٓ ۥ فَرَضَ اِسْخِيْ ۥ نَسْنِ اِمْلِكِب ۥ نَوَجِبْ كَيْتِيَا  
 ١٣ يَلْ ۥ وَنَعَدَب ۥ نَوَلِم ۥ وَثَوَاب ۥ اَوَكِتْ حَبَب ۥ كُلْ ۥ وَتَكْ كَرِيَا  
 ١٤ نَقَاتْ ۥ اَوْصَدِك ۥ وَشَكْلُ اَلِشَو ۥ مَتَّ اَسْ شَكْحَو ۥ سَدَمَنْ نِي دِيَا  
 ١٥ تِن مَنَعْ اِزِل ۥ بِي زَمَقْبِيْل ۥ اَوُوْنِبْ مَحْل ۥ اَغْسِ كَوَانِكِيَا  
 ١٦ وَحَبِيْ ۥ وَنِكِ ۥ مَبْ اَفْرَحِي ۥ كِسْ ۥ وَبِكِ ۥ بِي ۥ وَتَكْ كَرِيَا  
 ١٧ اِفِي مَتَشِش ۥ مَكْتِ ۥ يَسْخَش ۥ وَلَسْفِي ۥ بَش ۥ وَتْ ۥ وَكَيْتِكِيَا  
 ١٨ نَبْ ۥ لَو كَمَزَاح ۥ يَوْتِيُو فَرَاخ ۥ يَوْبِيَا اِكْرَاح ۥ خَر كَيْسَمَلِيَا  
 ١٩ وَلَسْكَوْطَنْ ۥ مَكَبْ ۥ اَسِيُوْن ۥ نَكَبْ ۥ نَكْنَع ۥ تَحْدَرْ ۥ نَكِيَا  
 ٢٠ سَتَغِي ۥ نَوْتَمَآ ۥ اَلَامِدْ ۥ وَهَدَمَآ ۥ وَتَكْفَتِ ۥ تَمَآ ۥ لَبْد ۥ مَكِيَا  
 ٢١ سَدَمَنْ ۥ نَوْنِغ ۥ وَسِيُو ۥ كَيْتَغ ۥ وَتَكْفَتِ ۥ كَغ ۥ وَتْ ۥ كَوَقْرِيَا  
 ٢٢ مَم ۥ يَلْ ۥ مَكْتِ ۥ كَوْب ۥ نَرَض ۥ تَنْ ۥ رِبْ ۥ اَيْتْ ۥ اُسْ ۥ وَآخِر ۥ نَدِيَا  
 ٢٣ دَنْغ ۥ تَمْتَمُو ۥ بِي ۥ تَمَآ ۥ وَيُو ۥ نِيْتَنْ ۥ رَمَمُو ۥ مَن ۥ اِمْلِكِرِيَا  
 ٢٤ نَوْرَض ۥ تَمَمُو ۥ سَكْرَت ۥ مَكُوْفُو ۥ سَكْ ۥ حَجْ ۥ وَآو ۥ اَوَامِكُوْلِيَا

La kwanda kamata dini	faradhi usikhini na wajibu kuitia	na suna ikimkini
Pili uwa na adabu	na ulimi wa thawabu kulla utakapongia	uwe kuti mahabubu
La tatu uwasadiki	ushikalo ulishiwe sandamane naye ndia	mtu asoshika haki
15. Tena mwanangu idhili	mbei za makabaili angusa kuinukia	uwaonapo mahali
Wangiapo uinukie	na moyo ufurahiye watakapokwenda ndia	kisa uwapeeke mbee
Sifanye mteshiteshi	kwa maneno ya soghashi watu wakayatukia	wala sifanye ubishi
Nena nao kwa mzaha	yawatiao furaha kheri kuinyamalia	yawapo ya ikiraha
Wala situkue thana	kwa mambo usoyaona tahadhari nakwambia	na kwamba nakununghuna
20. Sitangane na watumwa	illa mida wa huduma labuda nimekwambia	watakuvutia tama
Sandamane na wajinga	wasoyua kutunga watakuwa kurubia.	watakuvutia changa
Mama pole kwa maneno	kiumbe na radhi tano wa akhira na dunia	ndipo upate usono
Nda Muungu na mtumewe	baba na mama wayue mno imekaririwa.	na ya tano ni mumewe
Nawe radhi mumeo	siku zote mkaao awe amekuwelea	sikumhitaji wao

- ٢٥ نُوْقُفْ وَوَبِّ ۚ رَضِ يَكِرَازِغِي ۚ وَرَائِ تَكْرِيبِ ۚ رِبْ اَيْتَبْ دِيَا
- ٢٦ نَسِيكَ اَفْقُواوْ ۚ نَنْظَرْ دِ مَمُو ۚ تُولِزْ اَتَكُوْ ۚ رَلْ تَكَلْ تَرِوَا
- ٢٧ كِيَدِ وَرِ يَبِّ ۚ وَتِيكَ دِ لَحْنِ ۚ كِنَبْ وَرِ مَتْنِ ۚ هُنْ بَدِ اَتَسُوْ
- ٢٨ كِتَنِ كَعَدَبْ ۚ اَسْمِي غَضَبْ ۚ اَلِنَبْ سَمَجِبْ ۚ اَتَهْدِ كِيَمَا
- ٢٩ اَرَنِ كِيَمَانِ ۚ اَتَكَلْ سَمَحْنِ ۚ وَنِي سَكِرَنَبْ ۚ مَكِرَانِ هُومِيَا
- ٣٠ كِتَكْ اَعَنْ نِي ۚ كَفِي مَكْفُوِي ۚ كِسْ اُمْتِرْ كِي ۚ مَهْلْ يَكْ يَمُوْ
- ٣١ كِلَا اَلَسِيكُ كِسْ ۚ مِغْمِ اَمِيَسِ ۚ نُوْبِ نَسْ كِسْ مَتْ وَكَمِيَا
- ٣٢ كَفَلِي سَمَرُوْ ۚ وَلَسِنِ كِيُوْ ۚ كِتْ يَپْ سِ اَنُوْ ۚ كَمَكْ كَلْزِغِيَا
- ٣٣ كَمَكْ سِ اَمَهْلْ ۚ مَدِ كِي مَا اَكَلْ ۚ نَكَمَتْ مِيلْ ۚ كَمِغْ نَكَمُوْ
- ٣٤ مِيُوْ اَمِيَا ۚ شَرَفْ اَمَغْرِ ۚ مَكَزْ مَفَكْرْ ۚ بَكْرَتْ وَعَشِيَا
- ٣٥ مَتْدِ كَمِ كِيَا ۚ اَسِي يُوْ كِنَبْ ۚ كِتْ كَعْلِي سِ ۚ كِتَكْ نَكَغِيَا
- ٣٦ مِيَزْ اَيْبِي ۚ اَمْرِي سَكِي ۚ مَوْفْ اَلِيْتِ يَبِ ۚ مَغْ اَتَكْسِيَا

- |                        |  |                     |
|------------------------|--|---------------------|
| 25. Na ufapo wewe mbee | radhi yake izengee<br>ndipo upatapo ndia     | wende uyitukuzie    |
| Na siku ufufu wao      | na nathari nda mumeo<br>ndilo takalo tendewa | tauliza atakao      |
| Kipenda wende peponi   | utapeekwa dalihini<br>huma buddi utatiwa     | kinena wende motoni |
| Keti naye kwa adabu    | usimtie ghadhabu<br>itahidi kunyamaa         | akinena simjibu     |
| Enda naye kwa imani    | atakalo simkhini<br>mkindani humia           | we naye sikindaneni |
| 30. Kitoka agana naye  | kingia mkongowee<br>mahala paka pumua        | kisa umtandikie     |
| Kilala sikukuse        | mwegema umpapase<br>mtu wakumpepea           | na upepo nasikose   |
| Kivikia simwondoe      | wala sinene kwa yowe<br>chamka kakuzengea    | keti papo siinue    |
| Chamka si muhuli       | mwandikie maakuli<br>kumsinga na kumowa      | nakumtunda muili    |
| Mnyoe umpalize         | sharafa umtengeze<br>bukurata wa ashiya      | mkukize mfukize     |
| 35. Mtunde kama kijana | asioyua kunena<br>kitokacho na kungia        | kitu changalie sana |
| Mpumbaze apumbae       | amrie sikatae<br>Muungu atakutetea           | maovu kiyeta yeye   |



- ٣٧ مَنَعُ سِوَمَكُو تَرَكَم اَو نُو هُ كِبِ نَكش كُو هُ سِوَمَر مَر مَيَا  
 ٣٨ نَكُونَك اِسْع هُ نِي زَك كُنْع هُ نِي سَمِن كُنْع هُ نَقَر شَن كُنْيَا  
 ٣٩ نَوَايِب لِبَاس هُ اَلِي كَم عَرَس هُ مَعُو تَا كَعِي هُ مَكْنَب مَكُو  
 ٤٠ نَكْدَن نَك فُغْ هُ سَوَكْد كَشْع هُ مِيل سَوَت مَع هُ يَمَر شَن نَدَلِيَا  
 ٤١ پَت سَوَز دَات هِن سَكَم يَا اَن هُ وَك سَوَمَان هُ نَشَن كُنْيَا  
 ٤٢ يَب يَك اِن طِف هُ مَوَا شَرَف هُ وَكُنْ يَ صَنَف هُ مَصِفَا كُنْيَا  
 ٤٣ مِيَوَا لِي دَال هُ نَوُ فَوَت لَال هُ يَب لِمَتَكِيل هُ سِوَمِي كُل عِيَا  
 ٤٤ وَكُوَا يَ كُنْ هُ شَرَب رَهَس تَك هُ اَوْنَب مَوَزَك هُ رَدَنَك اِكُنْيَا  
 ٤٥ فَوَت يَك اَزِن هُ اَوْرَض كِي مَن هُ وَسَكِي دَرِيَن هُ سَعِي يَن اِكْعِيَا  
 ٤٦ وَدَسِن دَرِيَن هُ سَفَنُو شَرَان هُ مَتَا غَلِيَا تَن هُ نَوَسُنِي حِيَا  
 ٤٧ رَجِي اِس لَك هُ اَلَكِي نَبَنَك هُ اَنْعَر مَاتَرَك هُ مَنَب كِي لَلِيَا  
 ٤٨ بَنُو كُ مَشَكَز هُ صِفَا كِي اَزِن تَز هُ وَلَسِمَشَر تَز هُ اَسَوَز كُنْ كُو  
 ٤٩ اَلِكُ مَبَكِي هُ مَيَا اَفَر حِي هُ اَسِل تَرَكِي هُ هَن حَج كَمِيَا

Mwanangu siwe mkoo,	tenda kama uonao, sidharau marra moya,	kupea na kuosha choo
Na kowa na kuisinga	na nyee zako kufunga na ferashani kutia.	na yasimini kutunga
Nawe ipambe libasi	ukae kama arusi na mikononi makowa	maguu tia kungioi
40. Na kidani na kifungo	sitoe katika shingo ya marashi na dalia	mwili siwate mwengo
Pete sitoe zandani	hina sikome nyaani na nshini kuitia.	wanda sitoe matoni
Nyumba yako ina thifu	mumeo umsharifu msifu ukimwetea	wakutanapo sufufu
Muyue alipendalo	nawe ufuate lilo siwe mwenye kulingia	yambo limtukielo
Ukutiwapo kutoka	sharuti ruhusa taka rudi na kuiketia	uonapo meuthika
45. Fuata yake idhini	uwe radhi kwa yakini saa yane ikangia	usikae ndiani
Wala sinene ndiani	sifunue shariani na uso utie haya	mato angalia tini
Rejea upesi kwako	ukakae na bwanako mpate kuilalia	utengeze matandiko
Bwana wako mtukuze	sifa zake uzeneze asoweza kutukua	wala simsharutize
Akupacho mpokee	na moyo ufurahiye huna haja kumwambia	asilotenda kua yeye

- ۵۰ اَوْنَبِ اسُوکِ ۛ فَنُومِنِ اَتِيکِ ۛ اَکِبِلَ لَشِيکِ ۛ اِلَا کَا اَصِ جَلِيکِ  
 ۵۱ مَم سِنُو اَلِيَمِ ۛ اَوکَم وَک اَم ۛ نَل اَوِيکِ کَم ۛ شَس تَت سَدَمِيَا  
 ۵۲ نَالُو وَنَبِيکِ ۛ نَفَرَا ح نَزِيکِ ۛ شَسَر لِيَن يَکِ ۛ سَدَزَتِ تَل کَا  
 ۵۳ سَدَمِي شَس تَت ۛ اَو لَغ اَسِيَت ۛ نَل کِ لِس نَلَت ۛ حَق اَلْخَرَوَا  
 ۵۴ يَلَت کِيَا فَرَض کَن کَرِيَا رَض ۛ کَشَر کَفُوض ۛ مِي وَخ کَشِيَا  
 ۵۵ تَع هَب حَق يُو سِيَمَا اَلِيَا ۛ نَلَبِيکِ يُو ۛ نَوْم وَمَزَوِي  
 ۵۶ وَت وَکِيَلِکَن ۛ مِلِل هَد بَلَن ۛ اَلَوِيَا کَشَرَان ۛ مِلِل هِي هَتِيَا  
 ۵۷ مَوْصِي يَمْعِل ۛ اَللّٰهُ يَحْمِل ۛ نَرَعَزَنَا اَهْل ۛ وَدِنْدَا حِيَا  
 ۵۸ اَوْنَبِ مَحَب ۛ اَبُو وَکَنْصَب ۛ وَکَلِيکِ قَرَب ۛ اَعْس کَدَرِيَا  
 ۵۹ نَوَحَد کَلْکَل ۛ وَکَبُو نَوْنَل ۛ وَر سَوِکِ نَحَل ۛ يَم يَم کَر حِيَا  
 ۶۰ وَلَسِي کَبَر ۛ نَل حَق وَشَاکِر ۛ وَسِيکَت سَاکِر ۛ وَکَب نَاکَر لَوَا  
 ۶۱ وَتَد وَوَمِن ۛ کَدَنُو وَرَان ۛ سِيَد مَصْلُطَن ۛ وَشَر وَکُوِيَا  
 ۶۲ سِيَد وَيَا جَمَال ۛ نَوْتَكُفَا وَآل ۛ فَار وَکُوَضِل ۛ کُو وَکُو فِدِيَا

- |                         |   |                        |
|-------------------------|---|------------------------|
| 50. Uonapo uso wake     | funua meno uteke<br>illa kuasi jalia.             | akwambialo lishike     |
| Mama sineo ulimi,       | iwa kama wako umi<br>tusitete siku moya           | naliowa nyaka kumi     |
| Naliowa na babako       | na furaha na ziteko<br>siku zote twalokaa         | tusiondoleane mbeko    |
| Siku moya tusitete      | ovu langu asipate<br>hatta akahitariwa            | na lake lisinikute     |
| Yalipokuya faradhi      | kwani kariria radhi<br>moyo wangu katoshea        | kashukuru kafawidhi    |
| 55. Tangu hapo hata yeo | sijamaa kilio<br>na wema wa mazowea               | nikumbukapo pumbao     |
| Watu wakipulikana       | milele hukumbukana<br>milele huiyutia             | illa wenye kushindana  |
| Mausio ya mvuli         | Allah Allah ya amili<br>wapende na kuusia         | na nduguyo na ahali    |
| Uwaonapo sahibu         | ambao wakunasibu<br>angusa kukaribia              | wakikwambia karibu     |
| Na wachandika           | chakula uchambiwa nawe ula<br>nyuma nyuma kurejea | nla wala siweke muhula |
| 60. Wala sifanye kiburi | nla hatta ushakiri<br>ukamba na kondolewa         | usiyakute sikiri       |
| Watunde wa umini        | kwako nawawe ndani<br>washinde ukiwepua           | sipende masalatini     |
| Sipende wenye jamali    | na utukufu wa mali<br>cheo ukawafundia            | fukara ukawadhili      |

- ٦٢ اَلْكِدُّ وَمَيْدٍ ۚ اَوْ كَيْزٌ مِّنْدٍ ۚ كَزِمَ مَقْدِدٌ ۚ لَعَلَّا اَكْرِضِيَا
- ٦٤ نَا اَيُّو مُحْتَاَجٍ ۚ مَامَ كَلَّ سَمَحِجٍ ۚ كُوْزَا اَمِجٍ ۚ اَعْسَ كَمَرِيَا
- ٦٥ مَامَ هَيَّ يَسَكِرِ ۚ تَفْضَلُ مَسِيْرٍ ۚ وَتَوْنُ تَفْعَزِ ۚ رَاخِرَ نَدِيَا
- ٦٦ مَتِ مَنِيْجٍ ۚ كَلَّوْضِي مَنِيْجٍ ۚ سَسَ تَمُوْبَا مَعٍ ۚ اِنْ يَكَلِيْ رَوَا
- ٦٧ كَنْ يَتِ تَنِيوُ ۚ مَانَ اَدَمَ نِيوُ ۚ مَلِ رِيَاوِزِو ۚ كَيْتَزِ نَلْغُوَا
- ٦٨ نَلُوْبُو مَنَانِ ۚ وَنِيْلِي عَوْنِ ۚ نِنِيوُ وَلَمِنْ ۚ نِيْتِ نِيْ يَتُو
- ٦٩ يَتِ نَمَزِيْ يَتِ ۚ رَبِّ تَقْبَلُ مَنَا ۚ نِيْسَلِيوْتِنَا ۚ نَلُوْبُ نَتَرِيَا
- ٧٠ نُوْكِيَاوْغِ وَاَنْ ۚ نُوْبَا لَعِ مَنَتِ ۚ يَحُوْ يَوْمَانِ ۚ يِنِيْ مَجِبُ بِيَا
- ٧١ رَبِّوْوْكَ رَزْخِ ۚ نُوْنُ وَوُوْنُوْغِ ۚ وَنِيْ نُوْ لَمِغِ ۚ كَجَلِ نَسُوَا
- ٧٢ نَجِيْجِ اِسْلَامِ ۚ مَلِ وَاغِ وَرَحْمِ ۚ مَتَكَ يُوْ يَتِيْمِ ۚ يِيْ رَكْفَرِحِيَا
- ٧٣ يَا اَللهُ وَاغِ وَاَنْ ۚ مَلُوْبَا نَا اَمْنَا ۚ وَتَدِ مَلِ رَبَانَا ۚ سُوْتِ كُوْغَلِيَا
- ٧٤ مَلِكِ رُنْيَابِ ۚ وَتَدِ اَوْحَرِيْ ۚ وَنِيْ كَشِ يِيْ ۚ بِيْدَانِمَ نِيْ يَا
- ٧٥ وَغَلِيْ كَحْرَمِ ۚ وَوُوْغَزِيْ دِيْمِ ۚ اَوِيْلِيْ نَشَمِ ۚ رَاخِرَ نَدِيَا

Akupendao mpende	akuizao mwenende la'ala akaridhia	kwa zema mvundemvunde
Na ayao muhitaji	mama kwako simuhuji angusa kumtendea	kwa uwezalo mbuji
65. Mama haya yasikize	tafadhali sinipuze za akhera na dunia.	utaona nafuuze
Tamati maneno yangu	kukuusia mwanangu anipokelee dua	sasa tamuomba Muungu
Kwani yote tunenao,	Mwanadamu ni puo, kupoteza na kufua.	Mola ndi awezao
Nakuombawe Manani	unitilie auni, na yote nisyoyatua	ninenao ulimini
Yote nimezoyanena	Rabbi takabalimina na kuomba nitendea:	na yasalileo tena
70. Niwekea wangu wana	na umbulangu Mnuna, yeneye majimbo pia	yakuwe yao maina
Rabbi waweke nduu zangu	na waana wao na wangu, kwa jamali na sitawa;	weneye na ulimwengu
Na jamii Isilamu	Mola wangu wa rahamu nyoyo zikifurahiwa.	matakwa yao yatimu
Ya Allahu! wangu wana	nimekupa ni amana, siwate kuwangalia!	watunde Mola Rabbana
Nimekupa duniari,	watunde uwahizini, mbee za tuma nabia.	unipe kesho peponi
75. Wangalia kwa huruma	uwaongozi ndia njema za akhera na dunia.	uwaapulie tama

- ٧٦ كَكَوْبَ سَحْمٍ ۝ وَلَسِفٍ وَلِمٍ ۝ يَفْرَحِ لِحَمٍّ ۝ نَكْشِرُ وَزِيَا
- ٧٧ نَسِيمٍ مَحْتَاكِ ۝ نَبِّحُ سَحْمٍ ۝ عَجَلُ بِلَ فَرَاكِ ۝ يَغْفُو نَعْفِيَا
- ٧٨ نَزَلِي رَيْبُفٍ ۝ يَلُ نَغْيَا كُفٍّ ۝ زَمِزُغُ مَوْفٍ ۝ يَرْبُ نَغْفِرِيَا
- ٧٩ كِتُ كَفُو كَرِثُ ۝ لَكِدُو وَمَتَّتُ ۝ نَبِيِي وَفَلَّتُ ۝ اَنِجِمُ مِيَا
- ٨٠ نَكُو بُولُطَفٍ ۝ وَنَزَلِي مَحْفٍ ۝ كِيَوْمَ لِعَرَفٍ ۝ نَعْدِي كُجُو
- ٨١ كَمِيدُ هَزِي تَكُفٍ ۝ زَكِيحُ نَكُطَفٍ ۝ نَعْفِيَا نَعْفٍ ۝ نَشْشِرُ عَفُو
- ٨٢ يَا اَللهُ يَا اَللهُ ۝ يَارَبَّاهُ يَارَبَّاهُ ۝ يَا غَايَةَ رَغْبَاهُ ۝ نَتَعِي هَلَكُو
- ٨٣ نَكُو بَوْرَبَانٍ ۝ بِاسْمَائِكَ مَسْنٍ ۝ تَسْعُ وَتَسْعِي ۝ مِيَا هَيَفُو مِيَا
- ٨٤ نَبْلِشِي وَلِمٍ ۝ وَكَيْتُ فَعَمٍ ۝ دَعِ هَذَا سِلَامٍ ۝ اَكُوْبَ هَرَرَا
- ٨٥ نِمُ فَمُحٍ طَعِفٍ ۝ مِيَا بِيحُ تَكُفٍ ۝ نَكُوْبُ تَحْفَفٍ ۝ رَبُّ تَحْفَفِيَا
- ٨٦ نَكُوْبُ تَيْسِرٍ ۝ مَبْنَسُ بَقْدِرٍ ۝ وَنَغْشُ كُلِّ غَرٍّ ۝ شَرُّ كِنْسِلِيَا
- ٨٧ يَرْبُ نَيْمِلَزٍ ۝ مَبْنَسِي يُوْرٍ ۝ وَلَمِي سِرُّ زَرْ ۝ اَبَايْتُ سَكْلِيَا
- ٨٨ رَبُّ وَنَفْرَحِشٍ ۝ مَبْنَسُ اِنْقِشٍ ۝ مَوْفٍ وَنَغْشِلُ ۝ شَسُ كَسِي يَمِيَا

Kwako kuomba sikomi	wala si fupi ulimi; nikumshizia uzia!	ya Mfariji lihami
Nisimeme muhitaji	nipa hima sinihuji ya afua na afia.	ajili mbili faraji
Nondolea ndia mbovu	yaloningia kwa nguvu, ya Rabbi nighufiria!	thambi zangu na maovu
Kwetu yangawa mazi to	kwako wewe ni matoto, unepuke marra moya!	nipulia ufukutu
80. Na kuombawe Latifa	unondolee mikhafa, na idi ya kuhijiwa.	kwa yaumu li-Arafa
Kwa siku hizi tukufu	za kuhiji na kutufu, unishushize afua!	ni afu Rabi ni afu,
Ya Allahu! ya Allahu!	ya Rabahu! ya Rabahu! nitika hukwamkua;	ya Ghayiti raghbatahu!
Nakuombawe Rabbana	biasmaika husuna mia hupunguwa moya,	tisia wa tisaina
Nipulishie walimu	wakiyanena fahamu, akiomba hurudia.	dua hini Isilamu
85. Nami ni mja dhaifu,	mwenye nyingi takalufu, Rabi nitakhafifia;	nakuomba takhafifu,
Nakuomba taisiri	nisio kadiri, shari ukinepulua;	unegeshe kulla kheri
Ya Rabbi nitimiliza	mambo nisiyonaweza, amba yatasikilia.	wala moya nisowaza
Rabbi unifurahishe	mambo mema unegeshe, tusikusanye pamoya;	maovu uyagurishe,



- ٨٩ أَنْفَكَ دُنْيَانِ ۚ مَيْعَ يَوْمَسِّنْ ۚ نَفِيَّ نَرِيسِي ۚ مَكُو يَجْفَضِيَا
- ٩٠ تَعْلِ وَتَعْ هُنَّ ۚ كَزَجَمِ نَزْتُنْ ۚ كَزِيكِي دَيْنْ ۚ تَحْكُمُ جَلِيَا
- ٩١ تَعْلِ نِلِ سَقَمْ ۚ مَيَّ وَسِّنْ فَهَمْ ۚ أَسْمِنِ اسْلَامْ ۚ مَكُو غَزَنْدِيَا
- ٩٢ نَسَبُ يَكْتَعْ ۚ سِشْعَرِ سَمَلِغْ ۚ نِنَا كَجَن مَيْغْ ۚ كِيدَمْ وَصِيَا
- ٩٣ كِيدَمْ كُنْبِجْ ۚ لَعْلَا كُنْبِجْ ۚ مَكْفَوَاتِ إِلَهْ ۚ يَمِ نَوُكِرِ رَجَاءْ
- سَمِنِ يَتَا حَرَامْ ۚ مَعْنِ مَيْفَهَمْ ۚ مَسِ تَكُولُومْ ۚ بِي زَمَلِ جَلِيَا ٩٤
- سَمِنِ مَن يَغْنْ ۚ مَطْعِ وَوَمِ وَنْ ۚ مَسِ يَتِ نَزْتُنْ ۚ زَاخِرْ نَدْنِيَا ٩٥
- مِي كَطْعِ مَقَلْ ۚ دَكِ جَهْ نَجْمَالْ ۚ كَلْ اَرَبِ مَحَلْ ۚ هَتَغَا اَنَكْنِيَا ٩٦
- مِي كَتَغْ نَظَمْ ۚ نَغْرِبِ مِي حَمْ ۚ نَوْبَرِ وَاشِمْ ۚ رَبِ مَغْفَرِيَا ٩٧
- نَبِيْرِ عِدَارِ ۚ نَمِيْهْ وَوَحْدِ ۚ نَبَلِ زَمَزَادِ ۚ رَزِيْزِ مَزَزِيَا ٩٨
- حَلَالَمْ مَتَّعُونَ اللّٰهَ

- |                          |  |                       |
|--------------------------|--|-----------------------|
| 90. Uniweke duniani,     | Muungu nipa husuni,<br>makao ya hafidhia.    | nifapo nende peponi,  |
| Tungile utungo hunu      | kwa zahimu na zitunu,<br>na hukumuzo jalia;  | kwa kazi yako dayano, |
| Tungile nilisaqimu       | moyo usinafahamu,<br>mukiongoza na ndia.     | usomeni Isilamu,      |
| Na sababu yakutunga,     | si shairi, si malenga,<br>kapenda kumuusia;  | nina kijana muinga,   |
| Kapenda kumunabihi       | la ala katanabahi,<br>pamwe nawake rejea.    | kamfuata ilahi        |
| 95. Somani nyute huramu, | maana muyafahamu,<br>mbee za Mola jalia;     | musitukue laumu       |
| Somani mite ya ngano,    | mtii waume wenu,<br>za akhera na dunia;      | musipate na zitunu    |
| Mwenye kutii mvuli       | ndake jaha na jamali,<br>hutangaa nakenea;   | kula endapo mahali    |
| Mwenye kutunga na thumu  | ni gharibu mwenye hamu,<br>Rabi tamghufiria; | na ubora ithumu       |
| Na baitize idadi         | ni miate wa wahadi<br>ndizo zimezozidia      | na mbili za mazidadi  |

Wallah salam. Tamat aun Illahi.

## The Poem of Mwana Kuponu

### [TRANSLATION]

Come near me, my daughter, do me this little kindness, listen to my last instructions without delay and follow them.

Sickness has seized me; it has now lasted a whole year; I have not been able to rise (from my bed) in order to say a good word to you.

Come forward, sit down (beside me) with ink and paper: I have a little story which I wish to tell you.

Now that you are seated beside me, write: "In the Name of God" — obey Him also, the Beloved, and all his companions.

5. When you have (thus) acknowledged the name of the Almighty Lord — good! May he recompense us; God will give us things convenient for us.

The sons of Adam are nothing, and the world is not ours, nor is there any man who shall remain forever.

My child, take my advice, together with my blessing: God will protect you and remove misfortune far from you.

Take the amulet I am giving you, tie it carefully on a string, give it to yourself as a precious thing that you may get to look at it.

I will string for you a necklace of pearls and coral, that I may adorn you, an illustrious woman when it shines on (your neck).

10. Be pleased to let me give you a clasp, a beautiful one without a joint, that you may wear it on your neck— you will see that it shall profit you.

If you will take hold of my (counsel), my child, you will pass through this world and enter eternal life.

In the first place, hold fast to religion: do not neglect the obligatory (observances), and the optional ones you ought to perform also, if you are able to do so.

In the second place, behave and speak discreetly, and be (like) pleasant food in every house you enter.

In the third place, speak the truth, so that everything you touch may turn to blessing;— a person who does not hold fast to justice, you must not follow his steps.

15. Further, my child, behave with discretion before people of rank; in whatever place you may see them, hasten to rise up before them.

When they enter, rise and let your heart rejoice, and afterwards accompany them part of the way when they take their leave.

Do not ridicule people by saying untrue things, or make impertinent jokes which people dislike;

Speak to them merrily (with words) which will please them; (but) if there is (likely to be) any disrespect, it is better to be silent.

Neither carry your thoughts to a matter which you do not see, and if there is grumbling, do not you likewise, I tell you.

20. Do not associate with slaves any further than is necessary for household affairs; they will corrupt your mind — perhaps I have told you so (already).

Do not go about with foolish people, who do not know how to look after (their households); they will put you to shame when they approach you.

My child (be) gentle in your words; a woman has five persons to satisfy, and this is how you may get peace in this world and the next.

There is God and His Prophet; (further) you must recognize your father and mother, and the fifth is your husband; (this precept) has been very often repeated.

Let your husband be content (with you), all the days that you live together — do not worry him with requests, let it be he who recognizes you.

25. And as you go on do you (still) thenceforward seek to please him; and that is how you will find the way.

And in the day of resurrection, the decision is with your husband; he will ask (of God) what he wants, and what he wishes will be done.

If he wishes you to go to Paradise, you will forthwith be brought thither: if he says you are to go to the fire, there is no escape, you will be placed there.

Live with him befittingly, do not provoke him to anger: if he speaks (angrily), do not answer him, endeavor to be silent.

Keep faith with him always; that which he wishes do not withhold; let not you and him quarrel: the quarreler gets hurt.

30. If he goes first, take leave of him; when he returns, salute him: then prepare a place for him (to sit down) together with you.

If he lies down, do not disturb him; come near him that you may massage him, and (as to) fresh air, let him not want a person to fan him.

If he sleeps do not awaken him; neither speak in a loud voice; sit there and do not rise, that he may not have to look for you when he wakes.

When he wakes, delay not in preparing his meal, and look after his body, rubbing him and bathing him.

Shave him, both backwards and forwards, and trim his beard for him; pour water over him and fumigate him morning and evening.

35. Look after him just like a child who knows not how to speak — look well after everything that goes out and comes in!

Make him comfortable that he may be at ease, do not refuse (to obey) his commands; if he treats you badly God will rebuke him for it.

My child do not be slovenly, do as you think best; but sweeping and washing out the bathroom, do not neglect it even once;

Nor washing and scenting yourself, and plaiting your hair, nor stringing jessamine blossoms and putting them on the coverlet.

And do you adorn yourself with garments like a bride — put anklets on your legs and bracelets on your arms.

40. Nor take off from your neck the necklace and clasp, nor cease perfuming your body with rose water and dalia.

Do not take the rings off your fingers or cease dyeing your nails with henna; do not remove the antimony from your eyes nor (refrain from) putting it on your eye-brows.

Let your house be clean; honor your husband — when people meet together you will bring him praise.

(You ought to) know what he likes and follow that; a matter which he hates, do not enter into it.

When you want to go out, you must ask leave; if you see that he is annoyed return and stay (in the house).

45. Follow his directions, and you will be truly at peace; (if you go out) do not stay on the road till the fourth hour has arrived.

And do not talk by the way, neither open your eyes to evil, look down on the ground with a modest countenance.

Return home quickly and sit with your master, and get ready the bedding that he may lie down at his ease.

Take every opportunity of exalting your lord, spread about his praises, and do not require of him more than he is able to perform.

What he gives you, receive (thankfully) and let your heart rejoice; what he does not do of his own accord, you have no need to tell him.

50. When you see him, uncover your teeth in a smile; what he says, attend to it, unless it should be something impious.

My child, do not sharpen your tongue; be like your mother; (look at me) I was married ten years and we did not quarrel once.

I married your father with joy and laughter, there was no want of mutual respect all the days that we lived together.

Not one day did we quarrel; he met with no ill from me; neither did I from him, till the day of his election.

When death comes, if he tells me he is content with me, I shall praise God and follow His commands; (but at that time) my heart, was astounded.

55. From that day to this I have not yet ceased weeping, when I remember the comfort and happiness to which I had been accustomed:  
People who get on well together remember each other forever, but those who strive for the mastery regret it to all eternity.  
The (last) instructions of your husband, be sure you attend to them; and your relations and connections, love and admire them.  
Wherever you see friends who are related to you, and they say to you "come in", hasten to enter:  
And if they have food ready and you are invited, do you eat also, but do not put aside any to carry home with you.
60. And do not be proud; eat till you are satisfied; but if you have not yet had enough, do not admit it, but tell them to take away the dish.  
Cherish trustworthy people, let them be within your house; do not love the quarrelsome; if they are too much for you, you must send them away.  
Do not love those distinguished for beauty nor excess of wealth, (at least so as to) slight the poor and hurt their feelings (sense of honor).  
Love him who loves you; and (as for) him who hates you, go to him and break down (his opposition) by kindness — perhaps he may be appeased.  
And if a person in want comes to your house, my child, do not worry him with questions, but hasten to do what you can for him.
65. My child, listen to these words, I pray you do not reject my advice, you will find the advantage of it in this world and the next.  
This is the end of my instructions to you, my daughter; now I will entreat God to receive my prayer.  
For, whatever we may say, Man is but nothing; it is the Lord who has power to destroy and to create.  
I pray Thee, O Beneficent One, grant me Thy help (as to the words) which I speak with my tongue, that in all things I may be without blemish (?).  
All the things I have said, O Lord, accept them — and those which still remain over, I pray Thee also that Thou wilt do for me.
70. Take care of my children and my brother Mnuna: let their names remain and spread abroad in all lands.  
O Lord, take care of my sisters and their children and mine; let them multiply and prosper in the world.  
And all Moslems, O my Lord of Mercy, fulfil all their desires and let their hearts rejoice.  
O God, I have entrusted my children to Thee; keep them, our Lord and Master, cease not to look upon them!

I have given them to Thee in this world to watch over them and cherish them, and to give (them to) me, in Paradise tomorrow, before the Apostle, the Prophet.

75. Look on them in pity, lead them forward in the right path: remove from them destruction in this world and the next.

I do not cease praying to Thee, and my tongue is not short: O Comforter and Protector, put trouble far from me!

I stand as a suppliant — give me quickly, do not let me press (for a hearing)! (there are) two reasons for helping — safety and health!

Take me away from the evil, which entered me by force (against myself) — my sins and ill doings, O Lord, pardon me!

A thing may be heavy (to us), to Thee (matters) are small: remove from me the heat (of the fire) that it may withdraw from me at once.

80. And I pray Thee, the All-Kind, take away from me . . . in the days of Arafat and the feast of the Pilgrimage.

In these sacred days of the Pilgrimage and of affliction (?) save me, O Lord, save me, send down deliverances!

O God! O God! O Lord! O Lord! O satisfaction of all my desires, answer me when I call upon Thee!

I call upon Thee, O Lord, by Thy ninety nine beautiful names — a hundred wanting one. Make me to hear the teachers and understand what they say: this prayer when a Moslem prays it, is answered.

85. As for me, I am a weak handmaid, burdened with many troubles: I pray Thee lighten them, O Lord, and I shall be relieved.

I pray Thee, the Gentle One, (as to) things which are beyond my power: bring near to me all happiness, and put far from me all evil.

O Lord, fulfil for me the matters which I am not able (to accomplish): nor do I even think that they will come to pass.

Lord, cause me to rejoice! Bring near me the good, remove far from me the evil, that we may not meet together.

Keep me safe in this world, O God, give me grace, that when I die I may go to Paradise the abode of safety.

90. I have composed this poem amid oppression and losses by Thine act, O Judge, and Thy decrees, O Blessed One.

I have composed it in sickness, my heart had no understanding; study the Faith, going forward on the (right) road.

And the reason of my composing is not a poem or a song: (it is this:) I have a child as yet uninstructed, to whom I wish to give instruction.

I wish to warn her — see that you pay attention and follow God; return together with the women:

95. Read this all ye women, so that ye may understand, and may bear no blame before the blessed Lord.

Read: (these words are like) wheat springing up; obey your husbands, that ye may meet with no loss in this world and the next.

She who obeys her husband, power and prosperity are hers; whatever place she goes to she becomes known, and (her fame) is spread abroad.

She who wrote this poem is lonely and acquainted with grief: and if she was ever uplifted in spirit (she trusts) the Lord will pardon it:

Let me give you the number (of verses); it is a hundred and one; and two in addition: they are what I have added.

Completed by the help of God.

## Notes

### Line 1.

BINTI WANGU would be the usual order, the inversion, as in line 3 (*katite hadisi*), being for the sake of the rhyme. *Binti* (بنت) is sometimes used colloquially for *kijana* (or at Mombasa, *mtoto*) *mwanaamke*. It is seen in such patronymics as *Mbeu binti Sadiki*. The Swahilis frequently employ the particle *wa* = 'of' as a filiative — *Somorfe wa Haji*, etc. Often the connective is omitted altogether.

MCHACHEFU is not found in Krapf,<sup>3</sup> but cf. *chache* = 'a little, a few', and *mchache*; it is explained by Ahmadi as *mtu mwenyi mambo matoto* = 'a person of small affairs'. The word seems to be formed from *-chache* by the suffix *-fu* in the same way as *-takatifu*, *-pungufu*, etc.<sup>4</sup> Here it appears to have the force of 'this trifle'.

HASANAT(I) is the Arabic genetive (from *حسنة*) following the noun.

UPULIKE: Krapf notes *pulika* with the sense of 'hear' in the Kigunya dialect.

ASAA, from the Ar. *ساعة*, has here, according to Ahmadi, the force of *marra* = 'at once'.

ZINGATIA (not in Krapf) is explained as the equivalent of *fuata* = 'follow'; it is probably connected with *zengea* = 'seek' (Lamu dialect).

### Line 2.

LEMA, which strictly speaking would be the proper concord for *neni*, is not now used.<sup>5</sup>

<sup>3</sup> L. Krapf, Dictionary of the Suahili language, London, 1882.

<sup>4</sup> E. Steere, Handbook of the Swahili language, London, 1913, p. 229.

<sup>5</sup> Ibid., p. 85.



**Line 4.**

HABIBU = 'the Beloved' (Ar. حبيب) is of course here the Prophet.

SAHABAZE. For enclitic *-ze*, cf. *nduguze*<sup>6</sup>. *Sahaba* are the 'Companions' of Muhammad, frequently invoked, and enumerated by name in the 'Utendi wa Shufaka', stanzas 33-85.

**Line 5.**

TATUWAFIKIA. The pronominal prefix is here, as frequently elsewhere in this poem, omitted. In this case it should be *a-*. *Wafik-ia* is the applied form of the Ar. وفق, 'to be suitable to'.

**Line 7.**

AKEPUANI = *a-ki-epua-ni*. The final element *-ni* is the objective suffix of the 2nd pers. pl. It is difficult to account for its employment here, as it is not usual in Swahili to substitute the plural for the singular as a token of respect.

**Line 8.**

U-I-FUNGE-TO. For the *-to* suffix, imparting a favorable significance, cf. *manuka-to* = 'sweet scents'.<sup>7</sup> The reflexive pronoun *-ji-* is found in the Lamu dialect as *-i-*. 'Give (it) to yourself as a precious thing' — verbs of giving always take the objective pronoun of the person, never of the thing; so that the *-i-* here cannot agree with *hirizi*, unless we adopt the somewhat forced rendering 'give it (scil. the amulet) a precious setting (?)'.

TAAZIZI: from Ar. نَعَزَزَ, a derivative of عَزَزَ, 'to be rare, or precious'.

**Line 9.**

VIKA = 'wear, have on', is properly a neuter passive or middle, but it is frequently used actively<sup>8</sup> with the sense of 'to clothe' in places where one would expect *visha*. The latter, according to Madan, is also used in the sense of 'to cause to wear, to give clothes to'. I am not quite sure that this distinction can always be maintained, but as the cases in which I have heard *visha* used the word referred to *new* clothes,<sup>9</sup> it is probably correct. MKE SHANI is hard to construe, possibly the text is here corrupt.

**Line 10.**

KIFUNGO = 'a clasp' or 'fastening of any sort', though usually translated 'button'. From *fungo* = 'tie on'. 'Without a joint', i. e. 'made all in one piece'.

**Line 11.**

MANENO is to be understood with *yangu*.

VUKA is the word used for crossing a river: the metaphor is easily understood.

AKHERA, often pronounced *ahera* in colloquial Swahili, is the Ar. الآخر, 'the future life',

<sup>6</sup> Ibid., p. 109; 111.

<sup>7</sup> See L. Krapf, op. cit., s. v. "To"; cf. E. Steere, op. cit., p. 394.

<sup>8</sup> H. C. Madan, English-Swahili Dictionary, Oxford, 1894, s. v. "Vaa".

<sup>9</sup> E. g. a mother saying of her child "*nimemvisha nguo, kofia*", etc. (i. e. supplied him with new ones).

a derivation of *آخر*, 'to finish'. '*Ahera na dunia*' — the order doubtless being here determined by the rhythm — is a usual expression for 'this world and the next'.

DUNIA, pronounced as a trisyllable, is the Ar. *دنيا*, 'the world', in the sense of 'this vain' or 'transitory' world, being derived from *دني*, 'to be despised'. To denote the material universe, the earth, and sometimes, by extension, the circumstances of life or 'the world' in the sense of public opinion, the word *ulimwengu* is employed. In line 6 *ulimwengu* seems to be used in a sense almost indistinguishable from that of *dunia*.

#### Line 12.

FARADHI. The whole body of Moslem law is divided into five great branches dealing with matters of belief, of morality, of devotion, of deeds, and of punishments respectively. In matters of faith and of acts secular and religious a sharp distinction is made between that which is lawful and that which is unlawful. Lawful things are of several kinds — e. g., Fardh, or that which is explicitly enjoined by the Koran or unquestionable tradition; Wajib, or that which is obligatory, though not explicitly enjoined by the Koran; Mubah, or acts which it is praiseworthy to perform. The contravention of the Wajib is a sin, but not, as in the case of a transgression of the Fardh, an act of downright infidelity: the omission of the acts recommended under the title of Mubah is not sinful.<sup>10</sup> A knowledge of what is comprised under the above three headings and numerous others is not to be derived from the Koran alone: the doctor of Islam must be acquainted with the Sunnah as well. This is the traditional relation of what Muhammad and his companions regularly practiced, said, or permitted. It is supplemented by the Mustahabb, a relation of what the Prophet occasionally did or refrained from doing. In the Sunnah is to be found much that is obligatory and much that is optional: Mwana Kupona appears to have had the latter class of acts especially in mind, but no doubt she did not aspire to a technical precision in theology, and her general meaning is perfectly clear.

KUITIA<sup>11</sup> WAJIBU: *-tia*, being convenient for the rhyme, is here somewhat vaguely used, the sense being — 'and put (= add?) the required things.' Here *-i-* is the pronoun agreeing with *wajibu*, an imported word (Ar. *واجب*) placed in the *n*-class and not sufficiently common to have had its first syllable treated as a prefix, as has happened in the case of *waraka*, pl. *nyaraka*. It is not quite clear as to whether Mwana Kupona means by *faradhi* prayers and fasts or, in a more general way, the 'Five Pillars'<sup>12</sup> or 'Foundations' of religion.

<sup>10</sup> T. P. Hughes, Dictionary of Islam, London, 1885, s. v. "Law"; Idem, Notes on Muhammadanism, London, 1885, p. 92.

<sup>11</sup> The reading of the manuscript is here obscure: as written, the word looks like *kwenea*, which does not make sense.

<sup>12</sup> The Swahili call these *nguzo*. They are: (1) the repetition of the creed; (2) the five daily prayers; (3) the fast of Ramadhan; (4) annual almsgiving; (5) the pilgrimage to Mekkah. Ahmadi assured me that the fast of the

## Line 15.

IDHILI (ادل) = 'be humble' (from Ar. ادل).

BEI = 'between,' 'among,' being here, not the noun = 'trade', 'bargain', 'price' etc. (from Ar. باع, 'sell'), but a contraction of *baina* (from Ar. بيت, 'between').

MAKABAILI = 'gentle-folk', 'people of condition' — apparently a broken plural قبائل (Ar. قبيلة) treated as a singular and having *wa-* prefixed for the plural.

ANGUSA = 'hasten' — an old Swahili word.

## Line 16.

UFURAHIIYE: the *u* is not the pronoun of the second person, but agrees with *moyo*.

UPEEKE MBEE: Lamu dialect for *epeleke mbele*.

## Line 17.

SIFANYE = *usifanye*; the manuscript has, erroneously, *ifanye*.

MTESHITESHI: Krapf gives *mtesitesi* = 'a ridiculer', 'a mocker', which is probably the same word. It is not, however, usual in Swahili to have *fanya* followed by a personal noun (as in the Italian '*fare il medico*') unless it also has an objective or reflexive pronoun. Possibly it is *si-i-fanye*. *Jifanye* = 'to make oneself pretend to be', according to Madan. SOGHASHI = 'wrongs'. Not in Krapf.

Lines 15–19 refer more particularly to social intercourse with equals.

## Line 22.

MAMA, a playfully intimate term of endearment. Small children are commonly addressed as *baba* and *mama*, also as *bwana mkubwa*, *bibi*, etc. The Swahili, I believe, attach no special significance to the custom, but it is evidently derived from the inland tribes who confine it to children named after their grandparents (i. e. the first and second boy, and first and second girl). No doubt this usage rests on an early belief that the grandparent is reincarnated in the grandchild.

KIUMBE: The context shows that the word is intended to apply to women only. Its proper meaning is 'the creature' (from *umba* = 'mold', 'form', used especially of making pots) — as opposed to the Creator.

Ashura (which in some Moslem countries is not kept as a fast at all) was obligatory — "*faradhi kufunga siku ya Ashura*". He gave me the following sixteen reasons for its observance: "It is the anniversary of the day on which (1) God consented to forgive Adam; (2) the Apostle Idris entered into rest; (3) the Prophet Noah came out of the Ark; (4) God saved the Prophet Abraham from the fire; (5) God sent down the Law; (6) the Prophet Joseph was released from prison (*sijjini*, from Ar. سجن); (7) God gave his right to the Prophet Jacob ("*Nabii Yakubu*"); (8) God healed the Prophet Job; (9) God took the Prophet Jonah out of the whale's belly; (10) God divided the sea (*pasua bahari*) for the Children of Israel; (11) God forgave David; (12) God gave the kingdom to the prophet Solomon; (13) God forgave Muhammad his former and his latter sins; (14) God created the world (*-umba dunia*); (15) God caused the first rain to fall; (16) God caused mercy to descend to earth for the first time (*ya kwanda aloshusha retema katika nli*)". Ahmadi added that the apostles (*mitume*) kept the fast of Ashura. [On this cf. E. Doutté, *Magie et religion dans l'Afrique du Nord, Algiers, 1908, p. 526. Ed.*]

RADHI = 'five satisfactions'. The second element derives from the Ar. ضَبِي, 'to be contented'.<sup>13</sup>

USONO: not in Krapf.

**Lines 25-27.**

These lines are somewhat obscure, but their meaning seems to be that the husband is the arbiter of his wife's destiny beyond the grave. There seems no warrant for understanding 'Allah' as the elided subject of (a)*kipenda* in line 27.

**Line 29.**

ENDA NAYE KWA IMANI = 'walk with him in faith'. *Imani* derives from the Ar. اَمْنٌ, 'to lean upon'. Cf. 'The heart of her husband doth safely trust in her' — Prov. xxxi, 11. HUUMIA = 'it (habitually) hurts'. The original is less bald than a literal translation would imply. Something has to be supplied to bring out the full force.

**Line 30.**

AGANA: reciprocal. The common idiom with reciprocals (*agana nei*...cf. *nimeonana naye*) is difficult to translate literally. We can also say *kumwaga mtu: nimekwenda kuwaaga wageni* = 'I went to take leave of the strangers'.

KONGOWEA = 'to salute' after an absence of some duration. The person returning is greeted with 'Kongoni', to which the proper answer is 'Kongoni nawe'. Not in Krapf.

**Line 31.**

PAPASA = 'to stroke'. The word is applied to the gentle rubbing of the muscles which is supposed to relieve fatigue. The regular massage or 'shampooing' is called *kukanda*, 'to knead'. *Kusinga* (l. 33) is to rub the limbs with aromatic oils or other perfumes.

**Line 32.**

(A)KIVIKIA. VIKIA is Kigunya for *lala* = 'sleep'. It should be noted that, in ordinary Swahili, *lala* does not necessarily imply more than 'lying down'. If real sleep is meant, *usingizi* (*usindizi*) must be added, or the verb *sinzia* used.

YOWE = noise, is peculiar to the northern dialect; it is used as far south as Mambrui, but not at Mombasa. It does not seem to be quite equivalent to *kelele*; e.g. at Lamu 'nena kwa yowe' is used in requesting people to 'speak up', but I doubt whether *kelele* would ever be heard in this connection.

CHAMKA = (a)-*ki-amka* = 'when he wakes'.

**Line 33.**

TUNDA = 'take care of'. In Mombasa and Zanzibar dialects *tunza*.

MAAKULI: Arabic, used instead of *chakula*.

KUMOWA = *ku-mu-owa* (= *oga*); but one would expect *osha* (= *ogesha*).

<sup>13</sup> Krapf, op. cit., s. v. "Rathi".

**Line 34.**

KUNYOA is the general term for 'shaving', which is always done, in the first instance, from the nape of the neck upwards and forwards. The reverse operation, going back from the forehead, is called *kupaliza*.

SHARAF (Ar. شرف, 'to surpass in dignity', cf. also *sherif* = 'noble') used instead of *ndevu*, 'beard' — no doubt in accordance with the Arab usage of attributing special honor to the beard.

KUKIZA = 'pour water over'. Arab (and Swahili) bathrooms contain either (a) a cistern built into an angle of the walls and roof, with a plug let in below — by removing the plug the bather can obtain a douche as he stands — or (b) more frequently an oblong, cemented tank about three feet deep, from which water is dipped with a coconut shell ladle provided for the purpose. In either case the water runs away through an opening left at the junction of the outer wall and the floor.

FUKIZA: fumigation with *ubani* (frankincense), *udi*, and other perfumes is a favorite remedy for colds and other disorders and is often resorted to as a precautionary measure when 'there is sickness about' (e.g. at the beginning of the rains), as well as merely in order to scent the person and clothes.

BUKURATA WA ASHIYA = بَكْرٌ وَ عَشِيَّةٌ instead of the more usual *assubuhi na jioni* — no doubt for the sake of the verse.

**Line 37**

MKOO, defined by Krapf as 'a dirty fellow, who neither cleans his body nor clothes, nor sweeps the room,' etc. Cf. *ukoo* = 'filth,' 'sweepings', etc.

TENDA KAMA UONAS, seems to mean 'I do not go into detail as regards points of household management: you must settle those for yourself. But no decent person ever neglects' etc.

CHOO = the privy, which is usually contiguous to the bathroom.

**Lines 38-41**

Directions as to personal toilet.

YASIMINI = Arabic ياسمين. There are at least two kinds (*afu*, *tundanfu*) of jessamine growing wild in East Africa; one, if not both, is occasionally cultivated. The blossoms are hawked about for sale at Mombasa, Lamu, etc., either loose on brass trays, or made up with strips of *mkadi* (pandanus leaf) into the little bunches known as *vikuba*. Single blossoms are often stuck in the ears, or worn in the hair, by women: and they also make them into chains (worn round the neck, or hung up in the house), or thread them on little sticks. They are very fond of scattering them on the coverlet (if any) after the bed is made for the day.

FERASHA = 'mat, carpet, mattress'; from Ar. فرش, 'to spread out' (as a carpet), whence مفرشه, 'horse-cloth'. Not in Krapf. The word was applied to an eider-down quilt which I had, but not to my blankets. For the latter, curiously enough, only the English term appeared to be in use. Even the poorest Swahili house contains one or more of the locally made bedsteads (*kitanda*) — a framework filled in with interlaced cords of plaited palm leaf. On this is laid a mat, sometimes rolled up at one end so as to form a headrest; but nearly always there is at least one pillow (*mto*), usually a flat rectangular bolster, stuffed with cotton or *sufi*, the fiber of the silk cotton tree *Eriodendron*. It is usually covered with the same cotton print which is worn by the women. In some houses there are no bedclothes: people lie down in the clothes they wear by day and add any extra ones they may have, if necessary for warmth — perhaps a strip or two of *leso* may be reserved as wrapping for the children. In better houses there are one or two four-post bedsteads of Indian manufacture, with a light framework for supporting the mosquito curtain (*chandarua*). On this is laid, first a mat and then a mattress (*godoro*). In the house of the Kadhi of Pate this was white and about three inches thick (it appears to be sometimes more like a quilt — see Krapf s. v. "Godoro"); it had a coarse cotton sheet spread over it, and at each end two flat bolsters of the kind above referred to. These bolsters were made of some stout brown and white striped stuff, like ticking, and had white outer cases, removable for washing. There was no *ferasha* in this instance; it is a stout quilted cotton coverlet. *Sufi* is preferred to cotton for stuffing cushions and pillows, as it does not 'ball'.

**Line 39.**

LIBARI (*lebari*) = 'clothes', from Ar. لبس, 'to cover'. Not in Krapf, but see Madan's Dictionary. Cf.

*Bwana Gustavu apenda upumbao;  
- Usiku huvua libasi za kwao,  
Sikumtambua kiona uyao.*

KUNGISI = *mafurungu, mitali* (Abdul Alim) — i. e. 'anklets'.

MAKOWA = 'armlets', but cf. Krapf, s. v. "Koa" (2), who takes it for anklets. It also means 'shells' — but snail shells and similar whorled sea shells, never cowries, which seem to be the only ones used as ornaments.

**Line 40.**

MUILI: usually pronounced *mwili*, but here distinctly written *muili*, مُيِيل.

MWENGO = scent ('*harufu nguru, manukato*' — Abdul Alim).

MARASHI (rose water) and *dalia* are two favorite scents: the latter is a light brown powder, with a peculiar, somewhat sickly smell; it is usually mixed with powdered *tibn*.

**Line 45.**

'The fourth hour', i. e. about 10 a. m.

**Line 51.**

Abdul Alim reads, '*iwa kama wangu mimi*'; *wangu* agreeing, I suppose, with *ulimi*, understood. *Umi*, of course, is the Arabic word.

**Line 54.**

TOSHEA may have this meaning according to Madan's Swahili-English Dictionary, and this is borne out by Abdul Alim's explanation, *voho yangu ikasikitika*, 'my spirit was grieved'. We must suppose that in this clause the speaker after contemplating the prospect of reunion, again recurs to her bereavement.

**Line 58.**

NASIBU might also mean 'remember' or 'recognize'.

**Line 59.**

NLA: imperative in the Lamu dialect.

**Line 60.**

NLA, Kiamu imperative of *la*.

KUTA in the sense of *shiba* is found in Chinyanja, but is no longer used in Swahili.

USIYAKUTA = '(if) you are not yet satisfied'.

KIRI from Ar. *قَرِ*, 'to remain', 'to acknowledge'. The meaning seems to be 'if you have not yet had enough (scil. when the dish is going to be removed) do not admit (that it is so), but let them take away (the food)'.

**Line 61.**

WASHINDE UKIWEPUA is an unexpected contraction for *wakikushinda*, *wepua*. It is possible that *washinde* should be taken as the 2nd. pers. sing. of the imperative (or rather of the subjunctive). The meaning would then be 'overcome them by removing (getting rid of) them'.

**Line 62.**

DHILI from Ar. *ذَلَّ*, 'abase'.

WA, the objective pronoun agreeing with *fukara* (pl.). The *-ka-* tense is used somewhat loosely here, where one would have expected the *-ki-* tense.

FUNDIA. If this is the correct reading, and not *vundiu*, 'break', the meaning seems to be 'to mix up' — 'you are not to hurt the feelings of a poor man by ignoring or confusing his exact position'. Ahmadi read this as *ukawondolea*, 'nor take away'. This must have been a conjectural emendation on his part, as there is no warrant for it in the manuscript.

**Line 63.**

The pronouns here translated as masculine are in reality common.

A-KU-PENDAO = 'any person (man or woman) who loves you'; -iza- (Kiamu for *kataa*) here doubtless has the sense of 'refuses your friendship'.

**Line 64.**

AYAO, Kiamu for *ajao*.

UWEZALO: -lo probably agrees with *jambo* understood.

MBUJI, 'clever', 'skilful', 'able' (Krapf) seems somewhat pleonastic.

KUMTENDEA. The applied form *ku-m-tendea* means 'to do good to' a person; the simple form *ku-m-tenda* has the opposite sense.

**Line 65.**

SINIPUZE for *u-si-ni-puze*; *puza*, 'overlook', 'neglect'.

NAFUUZE, for *nafu zake*, the *zake* being pleonastic, referring to *akhera na dunia* in the next line.

**Line 67.**

The first line is almost literally 'whatever we may say'.

PUO, 'folly', 'nonsense'; apparently from a verb \**pua*, doubtfully mentioned by Krapf. From such a verb, apparently, the common modern word *upuuzi* derives.

**Line 68.**

YOTE NISIYOYATUA might be construed as 'all that I have not time to attend to'. *Tua* = 'to put down (a load from the head)', 'to cause to settle, stop, or decide'. But Ahmadi here read *ni-si-yo-taya* (or, in his Siu dialect, -*chaya*) = 'all which I do not say', which seems to supply an antithesis to *ni-nena-o*.

**Line 72.**

MATAKWA: a rather unusual word for 'wants', 'wishes'. It is formed from the passive of *taka*, since *ma-taka* (which would be the ordinary form of the verb, on the analogy of *ma-pendo*) is a noun stem with an entirely different meaning.

NYOYO, pl. of *noyo*, instead of *mi-oyo*. In the Kiamu dialect several second class nouns of which the stems begin with a vowel are treated in the plural as if they belonged to the *u*-class.<sup>13</sup>

**Line 77.**

NISIMEME is the old perf. of *simama*.

**Line 78.**

NONDOLEA NDIA MBOVU = 'take away from me the evil way'. This is the reading of the manuscript, but Abdul Alim amended *ndia* to read *ndwe*, Kiamu for *ugoniwa*, 'sickness'. YALO-. In Kiamu this is the prefix for the past relative.

<sup>13</sup> Cf. C. H. Stigand, *A grammar of dialectic changes in the Kiswahili language*, Cambridge, 1915, p. 50.



## Line 79.

UFUKUTU. This Abdul Alim explains as *hari ya moto, jasho la moto*, 'the heat of fire', 'the sweat of fire'.

## Line 80.

MIKHAFI: from Ar. *خاف* 'fear', means 'things which frighten me' (*mambo ya kutisha*).  
YAUMU LI-ARAFI = 'the day of knowledge' or 'of investigation' (from the Ar.). The context seems to refer it to the Day of Judgment, but there may be here an allusion to the ceremonies of the Mekkah pilgrimage.

NA IDI YA KUHIIWA = 'and the feast to which they go on pilgrimage'. *Hiiwa*, passive of *hiji*, from Ar. *حج*. But Sefu read *na idi yako hiiwa* which, if we understand it before *hiiwa*, means 'and thy feast is resorted to on pilgrimage'.

## Line 82.

YA GHAYATA RAGHBATAHU: This Abdul Alim explained as *ewe mkomo wa matakwa yangu*. 'thou the ceasing of my desires' — *mkomo* deriving from *ku koma* and meaning here 'fulfilment'.

## Line 83.

BI ASMAIKA HUSUNA = 'by thy beautiful names' (Ar.) — the ninety nine attributory names of Allah.

## Line 85.

TAKALUFU = 'troubles', a verbal noun from the sixth derived form of *كلّف* 'to lay a burden on'.

## Line 88.

GURISHE, causative of *gura* which at Lamu, as at Mombasa, is used instead of *hama* = 'migrate', 'remove' (scil. to another house).

## Line 90.

TUNGILE: here used for *ni-tungile*, the old perf. of *tunga* = 'compose'.

UTUNGO, the abstract noun formed from this verb, must not be confused with *utungu* (Zanzibar *uchungu*) = 'bitterness', 'pain'.

## Line 91.

NILISAQIMU = 'I being sick', from Ar. *سقم*.

USINAFHAMU is apparently a negative subjunctive. The *u* agrees with *moyo*. One would have expected *usiwe na fhamu*, equivalent to a participial construction: 'the heart being without understanding'. If in the next line *usomu* is the correct reading, the subject must still be *moyo*, for when the 2nd pers. is used it is in the plur. (*mu-ki-ongoza*). Abdul Alim, however, read *usomeni*, which he took as the equivalent of *someni*, the 2nd. pers. pl. imperat. of *soma*. But reading *usomeni* one finds it hard to account for the prefixed *u*,

unless one is to regard it as having been inserted for metrical reasons, or as the object — *u-someni Isilamu*, 'study ye Islam for it (scil. the heart)'. This latter alternative seems not a little forced. Ahmadi read *usomu ni Isilamu*, which hardly seems possible.

**Line 93.**

I can only understand this line by supplying *ni* with the first verb and *a* with the last, and by supposing that *katanabahi* and *kamfuata* are imperatives. The meaning would then be — 'And I would like to admonish her: Turn your thoughts to God and follow him, the Deity, to a good place' (or, reading *mema*, 'to good things') 'and he will repay you'.

**Line 94.**

NYUTE: Kiamu for *nyote*; cf. *sute* for *sote*.

HURAMU = 'women' (Ar.  $\text{نساء}$ ).

MUSITUKUE LAUMU = 'that you may not bear a reproach'.

**Line 95.**

MITE YA NGANO = '(my words are like) shoots of wheat' — i. e. they will spring up and bear fruit if you attend to them.

ZITUNU: this word appears to mean 'loss', but I cannot find *kitunu* in the dictionaries, and *tunu* occurs only in the sense of 'costly gift', 'wonder', etc.

**Line 96.**

NDAKE JAHA, etc. = 'it is hers, glory', etc.<sup>14</sup>.

**Line 98.**

BAITI-ZE is for *baiti-zake*.  $\text{بيت}$  'house' is here used as in Arabic for 'stanza'.

IDADI, from Ar.  $\text{عدد}$  'number'.

As there are only 98 stanzas (written as single lines of four divisions each) in the manuscript, three appear to have been lost or intentionally omitted by the copyist. I remember that Mwana Chema, when reading me the poem, passed over one or more lines with the remark that they were *ku-tukana* or 'improper'. The meaning of 'the two which are in excess, it is they which have been added' is not clear: it may imply, either that the original poem contained 99 stanzas, to which two were added later, or that the addition brought the number up to 103.

<sup>14</sup> Ibid., p. 51.

## NOTES ON EGYPTIAN SAINTS

R. H. BLANCHARD

[In sending these notes to the Harvard African Studies, Mr. Blanchard asked me to make any such alterations as seemed desirable. Mr. Blanchard's paper, naturally, was in need of no changes which I could make; but in justice to him I ought to state that I have added a few particulars — notably the paragraphs dealing with the *Kuft môleds*. I am responsible, also, for the concluding passage on the need of a systematic study of the Egyptian saints — a passage I would not have added had I not known, from several very interesting discussions with Mr. Blanchard himself, how keenly alive he is to the need of collecting what remains of the Egyptian popular institutions before they are finally leveled away by new influences. Ed.]

The following notes are designed to emphasize, by presenting a few particulars regarding them, the desirability of a systematic study of the cults of the numerous saints of Moslem Egypt. Throughout the whole Nile valley, it is an old established custom to hold celebrations in honor of deceased Moslems whose lives are popularly supposed to have exhibited a peculiar degree of sanctity, and to whom supernatural powers are generally accredited. Sainthood not being difficult of achievement in the Islamic world, it follows that almost every hamlet has its own saint's tomb, while several such sanctuaries are usually to be found in every larger village or town. At fixed periods such tombs are as a rule the center of a celebration which is often connected with a religious fair. As such celebrations are most commonly held once a year on the reputed birthday of the saint, they are all termed "*môleds*", even when more than one annual festival is held in honor of a single saint.

The saints are of different grades or classes: most of them are called "*Sheykh This*" or "*Sheykh That*"; some are referred to by the more honorable title of "*es-Seyyid So-and-so*"; and among these latter are not a few exalted ones who are regarded as *welîs*.

The majority of the saints enjoy only a local reputation; others are the central figures in the popular religion of fairly large districts, while a few are so widely renowned as to be of national importance. The local saints may or may not have a well-marked individuality; the more widely respected ones, by a natural synthetic process, are credited with many acts and powers which tend to obscure whatever individuality they may originally have possessed; but even the few who are objects of national devotion generally

retain enough of their character to lend to the rites with which they are venerated a significant color.

As an example of the purely local mōled may be cited that of Abadir, held at Belkas in the north central Delta. To this festival every visitor carries a goose. An annual celebration, which until very recently was held at Kuft (the ancient Koptos) in Upper Egypt, might serve as another example. The festival in question was in honor of a personage called simply el-Ḥamāl er-Rayah, "the Bearer of the Standard". Impersonal names of this sort at once put the ethnologist on the *qui vive*, as they often designate saints of a very primitive character whose personalities have remained undeveloped. In the present instance we are confronted with an appellation which may have been a titular of Min, the ancient ithyphallic fertility god of Koptos. Some support is lent to such a supposition by the nature of the rites with which the mōleds of the Standard Bearer were celebrated. On the occasion of this festival the whole adult male population of the town, in defiance of all orthodox Moslem sentiment, intoxicated themselves with whatever alcoholic beverages they could procure. Half a dozen prostitutes, hired for the occasion, set up their booths or tents in the town and received all comers. There was among the revelers a great deal of horseplay of the most licentious character; particularly in the vicinity of the booths of the *sharamūt*. Drunken men were dragged into the lanes by their friends, and there left lying, exposed to the village wags and wits. In 1914 this festival was modified by Government, which suppressed the more offensive features of the celebration.

Kuft boasts other saints than the Bearer of the Standard, and celebrates their mōleds with great devotion. Among them is one called en-Noṣāri, and another known as Sheykh Moḥammad el-'Awāmi. The latter has been called the "patron saint" of Kuft, but cannot justly be so styled since more veneration is paid to the Bearer of the Standard, and to a pair of saints of whom I will speak presently. Sīdī el-'Awām, whose name means "the swimmer", is so called because he had the power of spreading his kerchief on the Nile, and then standing on it and causing it to transport him wherever he would.

The saintly pair to which I just alluded are perhaps in their origin historical persons. They are known as Sheykh Mesa'ūd and Sheykh Ḥaggi Ḥasan Kalās. It is related of them that the former was the slave of the latter, at a time when Sheykh Ḥasan started from Kuft to make the pilgrimage to Mekkah. When the master had traversed half the desert way from the Nile to the Red Sea, as he was about to make his evening meal off the dry bread which was his only provision, a sudden longing came over him and he cried: "Would to God I had here my own wooden bowl, and in it a mess of home food cooked by my wife!" The good man had scarce bent to say the Bismillah over his dry

bread when lo, there was his own bowl before him, heaped with the home food he had desired!

Now at about that time the Sheykh's slave Mesa'ûd had been standing before the house in Kûft, when suddenly he thought he heard a voice calling him. He listened, and clearly heard the voice telling him to have made ready the bowl full of food. So he went to his mistress and said: "Cook a meal, and put it into the master's wooden bowl." And the woman did so and gave him the bowl. And the slave Mesa'ûd took the bowl out of the house, and spoke a prayer over it, holding it on his out-stretched hands. And as he finished his prayer, the bowl rose in the air and vanished.

A long time after, the master returned from Mekkah. He greeted his kinsmen, his friends, and his wife; and then he asked for his wooden bowl. And his wife told him how the slave had asked for it, and how she had given it, and she named the day and the hour. And when he had heard her story he showed her the bowl, with his own mark on it, and told her all that had happened. And the Haggi and his wife were at first bewildered. But the piety of the slave was clear to them, and the Haggi cried "By Allah, I swear that forever hereafter when men name me, they shall first name my pious servant Mesa'ûd!" And so to this day Sheykh Mesa'ûd and Sheykh Haggi Hasan are always named and invoked together, and the servant before the master.

Another Upper Egyptian saint of peculiar interest is Sheykh Harîdî. His sanctuary, in the form of a *ḡubbah*, or small domed shrine, stands in a picturesque depression among the rocks of the *gebels* bearing his name, to the east of the Nile near Tahta. Popular belief asserts that after a life of holiness the Sheykh was by God's will reincarnated in the form of a serpent which had its home in a cleft of the rocks. When the French traveler Lucas visited Egypt in the 17th century a *ḡubbah* had recently been erected on the site of the serpent-saint's home,<sup>1</sup> and today a second shrine, consecrated to his "wife", stands beside the sanctuary. Many miracles are locally attributed to Sheykh Harîdî, and so firmly rooted is popular belief in them that even the Copts do not deny them. The latter, however, take no part in the festivals of the saint, whom they have, to their own satisfaction, identified with Asmodeus.

Sheykh Harîdî is a famous healer, and the manner in which his aid is invoked by the peasantry has been related in some detail by an old Danish writer.<sup>2</sup> According to his account the invalid regularly sent a virgin to fetch the Snake; nor would the Sheykh obey the summons if he had reason to suspect the purity of the emissary. Harîdî's môle, which is of eight days' duration, takes place in the month following Ramadân.

<sup>1</sup> P. Lucas, *Voyage du Sieur Paul Lucas... dans la Turquie, l'Asie, ... Haute et Basse Égypte, etc.*, Amsterdam, 1720, vol. 2, p. 82 sq.

<sup>2</sup> F. L. Norden, *Voyage d'Égypte et de Nubie*, ed. L. Langlée, Paris, 1795, vol. 2, p. 64-69.

At that time large numbers of peasants, especially boatmen, visit his tomb and remain encamped there while the festival lasts. A full account of the rites performed on these occasions ought to prove of exceptional interest, for there can be no doubt that, as a distinguished orientalist has pointed out, Sheykh Harîdî is the modern representative of the pagan Āgathadaemon.<sup>3</sup>

If one wished to cite an example of a great Egyptian saint, the Seyyid Ibrâhîm ed-Dasûkî might serve. The center of his cult, where his three annual festivals are held, is the town of Dasûk in the western Delta; but he is widely revered throughout Lower Egypt. Dasûk is situated on the westernmost branch of the Nile, and on the occasion of the Saint's môleads, which are accompanied by great religious fairs, thousands of visitors come to the town from all quarters. Many of these visitors live on their boats during the course of the fairs: others find quarters in the town, or set up tents or booths in the outskirts. In the môleads of the Seyyid Ibrâhîm, the Sa'dîyah dervishes play a conspicuous part. They go about, as Lane<sup>4</sup> long ago observed, "some carrying serpents with silver rings in their mouths, to prevent their biting: others partly devouring these reptiles alive." "There are many darweeshes of this order", he writes, "who handle, with impunity, live, venomous serpents, and scorpions; and partly devour them."<sup>5</sup>

The greatest of the Egyptian saints is the Seyyid Aḥmad el-Bedawî of Tanṭâ. His importance is more than national — he is a figure in the whole Islamic world. He is reputed, not without an imposing array of authorities, to have been an historical personage; to have been born at Fez in Morocco in A. H. 596; to have passed through Egypt on his way to Mekkah, and to have made the return journey to Tanṭâ in a single day. He is said to have lived some thirty years in Tanṭâ and there to have died at the advanced age of seventy nine. During his life he performed, it is said, a host of miracles — he raised the dead, healed cripples and paralytics, and restored sight to the blind. The truth of these cures is supported by traditions which the Moslem world unhesitatingly accepts as veracious. In A. H. 700 the Sûltân Melek en-Nâsir erected a superb mosque over the simple grave of the Seyyid. This mosque, which was extensively repaired about a century and a half ago by 'Aly Bey, is today one of the most impressive structures of its kind in Egypt.

Seyyid Aḥmad, like Seyyid Ibrâhîm, is honored with three môleads annually. The first begins about the 17th of January, the second at the time of the "Greater Sun", i. e. about the vernal equinox; and the third, which is the greatest of the môleads, is celebrated

<sup>3</sup> A. H. Sayce, 'Serpent worship in ancient and modern Egypt' (The Contemporary Review, no. 334, Oct. 1893, p. 523-530).

<sup>4</sup> E. W. Lane, *Manners and customs of the modern Egyptians*,<sup>4</sup> London, 1860, p. 240.

<sup>5</sup> Ibid., p. 241.

about a month after the summer solstice, after the Nile is well risen, but before the dams of the irrigation canals have been cut. Each of the three môleds lasts eight days, from one Friday till the afternoon of the next. The three môleds of Seyyid Ibrâhîm are so timed as in each case to follow a week after one of the three môleds of Seyyid Aḥmad — an arrangement of great convenience to the hucksters, small merchants, and general riff-raff who spend a good part of their time in trading and trafficking at various fairs.

Seyyid Aḥmad's three môleds, and those of his illustrious neighbor at Dasûk, are fixed not in accordance with the shifting lunar calendar, but by the solar dates of the agricultural year. This is very generally the case with the festivals of Egyptian saints, and points, if not to the non-Moslem origin of such celebrations, at least to their having been seriously influenced by popular ideas quite foreign to those set forth in the Kūrân. In the case of Seyyid Aḥmad it may be said that the solar dates of his môleds are among the least conspicuous of the non-Moslem features they present. The character of the festivals at Tanṭâ is that presented by many communal celebrations for the promotion of animal and vegetable fertility among ancient peoples, and among modern primitives. Anyone who chanced to see the Tanṭâ môleds in the old days before the Government suppressed their most obnoxious features, or who is intimately acquainted with the details of their celebration today, will, I am sure, agree with me in this view. Of the purpose of these môleds there is no doubt — the consumption of enormous quantities of parched peas 'because they come many in a pod'; the parading of thousands of prostitutes and dancing girls, equipped with gigantic emblems of reproduction; and the class of ailments which to a preëminent degree influence natives even from the Sûdân to attend the môleds — these points alone out of many are sufficient to indicate the object of the festivals.

Perhaps the most characteristic feature to be found in the Tanṭâ festivals is one which is — or until recently was — to be seen on the last day of the great môle. On that day the Shinnâwfyah dervishes led to the door of the saint's mosque an ass carefully trained for the great occasion. The ass of its own accord entered the mosque, walked to the tomb, and there halted. There it stood while each of the throng crowding around it strove to get close enough to pluck off from it some of its hair to use as a charm. In the end the skin of the wretched animal was "as bare as the palm of a man's hand".<sup>6</sup>

The môle of Seyyid Aḥmad is purely Egyptian in its origin. Another annual festival of no less importance is not indigenous, but Islamic: I refer to the *môle en-Nebî*, or "birthday of the Prophet". This festival, although often described by travelers, presents so many curious features that no account of it may be called complete, despite the fact that the acute and learned Lane himself has left us a long description of it. Into

<sup>6</sup> Ibid., p. 242.

the celebration of *môled en-Nebî* have been incorporated many features of a non-Moslem, or even of an anti-Islamic, character. These features are as strongly marked at Cairo, where they flourish under the very eyes of the 'ulemâ, as in the provinces.

The *môled en-Nebî* takes place in the third month of the Moslem year, and is celebrated at Cairo with great circumstance.

In the desert waste, between the city itself and the suburb of 'Abbassîah, around the edge of a rectangular space several acres in extent, are put up some fifty cubical tents of white canvas, about thirty feet high. The tents along the north, east, and west are those belonging to the dervishes of various sects, and display through their open fronts — they all face inwards — the usual bright colored geometrical designs and Kuranic mottoes, which completely cover the interior of the tent material. From the top of the tents hang large crystal chandeliers with hundreds of prism pendants and tulip-shaped cups for candles. The tent ropes are festooned with red cotton flags bearing white stars and crescents, while upon the ground, around the interior of the tents and across the open fronts, are long wooden benches upon which friends of the sheykh's seat themselves from time to time to drink coffee. The latter is prepared in small kitchen tents placed between the larger ones. The southern end of the enclosed space is occupied by the more magnificent tent of His Highness the Sûltân. The tent is lined with red satin and filled with red and gilt furniture. Hard by it stand the reception tents of the various ministries, some of which extend over into the western side.

During the day the whole place is almost deserted, but when darkness falls it is wonderfully illuminated, and hundreds of visitors attend. Upon the eleventh and last night some eight thousand persons gather at the celebration, which concludes with a grand exhibition of fireworks.

Around and around the great enclosure sweeps the enormous but good natured throng, walking at a slow pace, laughing, joking, jostling, and crowding, taking about thirty minutes to make the complete circuit and to look in at such *zîkrs* as are taking place in the dervish tents at the time. Each tent has its *zîkr*, at its own hour. The devotees face each other in a double line. They sway their bodies and roll their heads, constantly repeating some religious invocation, or simply the name of "Allah" over and over again for an hour or more. Some of the performers are constantly falling to the ground through ecstasy or dizziness.

The street approaching the scene of the *môled* is lined with booths about fifteen feet high. A sort of stairway of shelves at the back of each booth is filled with sugar dolls, the booth being brilliantly illuminated at night with lamps, lanterns, torches, and acetylene flares.

The sugar dolls are called "brides" or, less particularly, "sugar-toys". Both men



and women buy them, and though there is no ceremony connected with their manufacture or sale, it is perhaps worthy of notice that the sweetmeat sellers frequently exclaim: "A grain of salt in the eye of him who doth not bless the Prophet".

The dolls are made by a certain *Hasan el-Helwânî* in the northeastern quarter of the city; for some sixty years he has made sugar toys for the various *môleds*. His outfit comprises about a hundred heavy oblong moulds of wood, each made in two, three, or four parts, carefully carved within for the front and back of the figures. After soaking in water, the parts are bound together with a long cord, and about ten moulds at a time are placed upside down upon a long table. The melted sugar paste is then poured into them through the open base; after cooling slightly the moulds are reversed, whereupon the still fluid core of the figure pours out, leaving a hollow shell of sugar.

By far the most popular figure is the '*arûsah*', or "bride", made of white sugar. She comes from the mould in indoor costume, with one arm raised or with both hands resting on the hips. Decorations are added, generally consisting of gold leaf, tinsel threads, and pink paper roses. Lines of sugar decorations are run on from a paper cone, with a small hole at the point. The face is generally unveiled, the cheeks are painted a bright carmine, and the eyes and eyebrows are strongly outlined with black (fig. 1). Sometimes the '*arûsah*' is provided with a black or white face veil and a black out-of-door costume. The latter may be in one of several styles, such as are worn by the different classes of native women. The largest "brides" are about two feet high and weigh about six pounds; from this they graduate down to those which are only about four inches high and which weigh but a few ounces. When sold at the *môled* they are weighed on scales before the purchaser, and cost from two and a half to four piastres a pound.



Fig. 1.

Other types of sugar dolls recall the ancient Graeco-Egyptian terra cottas, except that the subjects, instead of being mythological, represent modern Egyptian characters. Among the more popular figures are *kâdî*, or judge; the *effendî*, or educated gentleman in European costume and *tarbûsh*; the *sufragî*, or servant; the *hashâsh*, or drunkard intoxicated with hemp; a man riding a donkey and followed by a donkey-boy; a man on horseback; a camel bearing the *Mahmal* as carried at the start of the pilgrimage to Mekkah; a boy on a bicycle; and a knife-grinder. Sometimes more elaborate representations are attempted — one group, for example, portrays an episode from the popular and not very decorous story of *Hasan Abû 'Aly*, and shows a policeman seizing old *Hasan* as he is about to lead away the goat. Inanimate objects are in some cases reproduced — e. g. a lamp-post, a palace, or a saint's tomb. The water

bottle used to be common, but of late years it has almost disappeared, as has also "the nuptial bed", the sale of which is no longer permitted.

Trays of these smaller toys, which are nearly always made of red sugar, are hawked about the streets from time to time and sold to children. The "brides" of white sugar, however, only appear at the celebration of the *môled en-Nebi* or on the occasion of some prominent saint's "birthday". The *'arûsah* thus appears to be the original or essential type of these sugar dolls, the others being subsidiary.



Fig. 2.

As the making of any human likeness is forbidden by the *Kurân*<sup>7</sup> we are here confronted with an anti-Islamic practise of considerable interest. It seems impossible to obtain any light on it from popular sources—the manufacturer of the dolls declared that the figures were made "to look upon", and his children were unanimous in saying that they were made "to eat". It is, however, hardly to be doubted that we are here in the

presence of a survival from ancient times. Parturition ex-votos of terra cotta were in use in Egypt at least as early as the XII Dynasty (fig. 2), and the association of female figurines with the circle of ideas connected with birth not unnaturally stimulated a coexistent belief in the efficacy of female figurines as fertility charms. As such they were employed in Coptic

Egypt, very rude bone female figures being found in the poorer graves<sup>8</sup> (fig. 3, dressed; fig. 4, nude); and it is as such, presumably, that the *'arûsah* was originally regarded. This view receives support from the fact that "the bride" is known in Cairo not only in the form above described, but also as a silver amulet—a rudely cruciform figure with a female face engraved on the obverse, and the *pudendum muliebre* on the back. The lower parts of these figures bear Kuranic texts on each face. It hardly seems too bold an assumption to suppose that in the popular mind there is a vague belief that on the anniversaries of a saint's birth the *baraka* of fertility is abroad, and that it may be absorbed by eating the emblematic *'arûsah*.

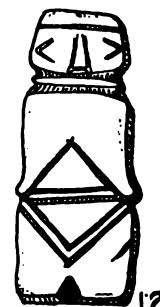


Fig. 3.



Fig. 4.

If now one turns from the question of the worship of particular saints to a consideration of the broader aspects of modern Egyptian hagiolatry, a number of new fields of investigation at once present themselves. The student is, for example, tempted

<sup>7</sup> *Kurân*, *Ŝarah* V, 92.

<sup>8</sup> Cf. C. L. Wooley, 'Coptic bone figures' (*Proc. Soc. Bib. Arch.*, vol. 29, p. 220). For other examples of these bone figures, see W. M. F. Petrie, *Ehnasya*, London, 1905, pl. 42, fig. 44; Idem, *Memphis I*, London, 1909, pl. 41, figs. 21, 22, and 23; L. Loat, *Gurob, ad calc.* M. A. Murray, *Saqqarah Mastabas*, pt. 1, London, 1905, pl. 6, figs. 14, 15, 16.

to explore those phenomena which seem to characterize the belief in Egyptian saints as a whole. Until more data are available such phenomena can seldom be satisfactorily described, much less explained, but as an example may be cited one apparently universal belief regarding the holy dead. It is held that the body of a man who has during life attained an unusual degree of sanctity is gifted with a mysterious and supernatural power — a power which is often exerted on those that carry the bier to the grave. The bearers feel themselves compelled to follow a certain route, and even to bury the corpse at a spot chosen by itself. Klunzinger gives a typical instance of this: — “An old negro slave in Kosier, well known for his long, harmless, pious life, having died towards evening, would not, on any account, have himself buried the same evening, and the bearers, in spite of all their shouting of *la ilah ill Allah* [sic], could not bring the corpse to the graveyard. It remained, therefore, all night in the house (though the people do not like to keep a corpse at night), watched by a multitude of people praying. Next morning also it could not be buried for a long time; the blessed dead compelled the bearers to go through all the streets of the town, till at last, on the recommendation of the governor, the higher officials carried the bier to the grave; even the Turkish soldiers could not accomplish it. The whole town was in uproar. The Mohammadans say the angels exercise this coercive power. The Christians believe it is the devil.”<sup>9</sup> How many ideas as widespread as this may exist in the Nile valley only systematic research can show: it is probable that many striking similarities of ritual and of saintly “history” would be revealed by further study.

There is one phase of this whole question on which I have hardly touched, but which I wish to emphasize before I close: I refer to the economic aspects of the mōleds. It is a commonplace that sanctuaries have often played a prominent part in the creation or development of trade centers, but the subject is one of such significance in the history of early commerce and of barbarous culture that new evidence is always welcome. Religious fairs are almost universally an adjunct to a saint’s festival, and in the economic life of the modern Egyptian, as presumably in ancient days as well, they are of prime importance. In this connection it may not be amiss to cite the opinion of two of Napoleon’s officers, who during the French occupation of the country made a tour of inspection in the Delta: —

La superstition fut presque toujours une des principales causes des foires les plus célèbres. Les hommes, au bruit des miracles d’un de leurs semblables, que peut-être ils maltraitèrent pendant sa vie, se précipitent vers son tombeau. L’amour du merveilleux les entraîne et mêle leurs races diverses au pied des mêmes autels; leur repentir et leurs larmes s’y confondent et les rapprochent: ils seroient restés inconnus les uns aux autres, et ils contractent des amitiés qui, par de doux souvenirs, uniront peut-être à jamais leurs familles; ils se racontent leurs voyages, s’entretiennent des productions de leur terre natale,

<sup>9</sup> C. B. Klunzinger, *Upper Egypt: its people and its products*, London, 1873, p. 393. Cf. O. Bates, *The Eastern Libyans*, London, 1914, p. 195.

et de celles des pays qu'ils on traversés; ils se montrent les objets qu'ils en on rapportés, les echantent entre eux: les avenues du temple se transforment en un vaste marché; et la superstition, une fois utile au monde, sert de véhicule au commerce et lie par de nouveaux besoins les hommes qu'elle divise si souvent d'une manière cruelle.<sup>10</sup>

\* \* \*

The features of interest which the Egyptian môleds afford to the folklorist ought to be clear even from the few examples cited above. Were such a thing feasible, all students of popular religion in general, and of Egyptian ethnology and archaeology in particular, would heartily welcome the institution of a properly constituted commission to undertake, before it is too late, the collection of all available data relating to the Egyptian saints and their cults. Only by the means of such a commission, aided by Government, could a general survey of this rich field be made. As it is hardly possible, especially in these troubled times, that such a survey should be undertaken, I here subjoin a list of questions to aid such individual investigators as may have the opportunity and the inclination to collect information. A detailed account of the cult of even one insignificant saint, it should be borne in mind, may prove of the highest permanent value to science.

1. What is the name of the saint?
2. Is he referred to as Sheykh, Seyyid, or Well?
3. What are his titles? If possible distinguish between those which are commonly, and those which are rarely, employed.
4. Where is the center of his cult?
5. How is this center marked (grave, *kubbah*, mosque, or natural feature)? Was this center always that of the cult, or was the saint in old times especially venerated at some other place?
6. When is his môled? Is the date — or dates, if there be more than one yearly celebration — fixed by the Moslem or by the agricultural calendar?
7. Does the môled always begin on a particular day of the week? How long does it last?
8. Who attends the môled? Is the cult local or widespread?
9. Do men or women play the predominant part in the celebrations?
10. What are the saints' functions? Is he the special protector of any class of people, animals, or things?
11. Are there especial gifts made to him? If so, what are they, by whom are they given, and under what circumstances?
12. With what rites is the saint's môled celebrated?

<sup>10</sup> Du Bois-Aymé and Jollois, 'Voyage dans l'intérieur du Delta' (Description de l'Égypte.... État moderne, vol. 2, Paris, 1813, p. 91 sq.).

13. What is the saint's history? What are his miracles? Does he appear to have been an historical personage or not?
14. Does any particular body of dervishes play a conspicuous part at his môleds?
15. Is there in any way connected with the saint any particular kind of amulet or talisman?
16. What are the economic aspects of the saint's môleds? Are they the occasions of fairs? If so, does any particular commodity feature prominently in the traffic? <sup>11</sup>

If sufficient information could be collected on the above lines, it might eventually be possible to compile a calendar of the Egyptian saints — a sort of *Fasti* which would be invaluable to students of comparative religion, of Islam, and of ancient Egypt. The collection of such material has been too long deferred; within the past generation much has disappeared which will never be recovered. But that which remains is thereby rendered the more precious, and it is earnestly to be hoped that some effort will be made to put it on record before it too is lost beyond recall.

<sup>11</sup> [The Editors of the Harvard African Studies take this opportunity of saying that information collected anywhere in Moslem Africa on the lines above indicated would be warmly welcomed for publication in the series.]

## DARFÛR GOURDS

F. H. STERNS, PH.D.

Calabash vessels are widely distributed throughout Africa.<sup>1</sup> Almost every conceivable practicable form which can be made from a gourd shell may be found somewhere on that continent. Dippers, bowls, jars, jugs, bottles, pipes, and many eccentric types occur. The decoration varies as widely as the shape, both in its technique and in its motives. This wide distribution, coupled with such extensive variations, must of course have an important ethnological significance. As yet, however, the comparative study of African gourds has been neglected. Even the preliminary work of the accurate descriptions of the gourd vessels from particular tribes or localities has scarcely been undertaken. It is as a slight contribution to this important subject that the present paper, describing a small collection of gourds from Darfûr, is here presented.

The specimens described in this collection were made by the official gourd-maker of 'Alî Dinâr, the late sultan of Darfûr. They were obtained by G. A. Reisner in the Sûdân, and were given by him to the Peabody Museum of Harvard University.

Two of the twenty one vessels in the collection were made from complete gourds (figs. 49 and 51). In each of these "jars", a small circular orifice has been cut through the shell around the point of attachment of the stem. The edge of the orifice of one of the vessels<sup>2</sup> has been burned black and made nearly smooth by the application of some hot implement. In the other vessel, the orifice has not been so treated.

Nineteen of the specimens may be termed "bowls".<sup>3</sup> Each of these is a half gourd

<sup>1</sup> For example, large numbers are employed on the Congo; 'Les collections ethnographiques du Musée du Congo' (Annales du Musée du Congo, vol. 1, pt. 1, Bruxelles, 1899) pls. 6, 7. For the Zambesi region, cf. F. Ratzel, *The history of mankind*, London, 1897, vol. 2, p. 549. For the Kamerun, cf. G. Tessman, *Die Pangwe*, Berlin, 1913, vol. 1, p. 154, 268. For West Africa, cf. A. J. N. Tremearne, *Hausa superstitions and customs*, London, 1913, figs. 52-60; F. von Luschan, *Beitrage zur Völkerkunde*, Berlin, 1897, p. 47.

<sup>2</sup> The specimen shown in figure 51. This vessel is 24 cm. in diameter, 23 cm. high, and has an orifice of 9 cm. The corresponding measurements for the other vessel are 24, 18, and 6 cm. The remaining vessels vary from 16 to 24 cm. in diameter. Judging from the little information Tremearne (op. cit., p. 239) gives, the Hausa calabash vessels are much smaller, the largest he mentions having a diameter of only 3½ inches. This is not the case, however, with the vessels of similar nature from Uganda, if the Peabody Museum collection is representative. Among these are specimens with fully as great diameters as the Darfûr vessels, and much greater heights.

<sup>3</sup> This prevalence of the bowl type may, of course, be due merely to the smallness of the collection. One however, cannot help noting the apparent difference in this respect from other collections from Africa. Three of the re-

shell, made by splitting the gourd along a plane passing through the point of attachment of the stem and the small knob on the opposite side. Both halves thus formed were probably made into bowls, although in the collection studied, it is doubtful whether any two of the specimens were made from the same gourd.<sup>4</sup> In every specimen the inner surface has been scraped clean, and the edge burned black and smooth by the use of a heated tool.

The ornamentation on both the jars and the bowls consists of pyrogravures.<sup>5</sup> The implement used in this process seems to have had a blunt edge rather than a point. Certain of the figures could have been made only by rocking an edged tool back and forth. Moreover, there are no deeply burned spots such as one would expect if the implement used in the pyrography had been pointed. The decoration consists of burnt-incised lines, somewhat irregularly made. Around the lines, there is an area scorched by the radiating heat of the incising tool. This scorching tends to conceal irregularities in the lines.

The ornamentation is confined to the exteriors of the vessels.<sup>6</sup> On the jars, the upper side of the design is that near the orifice. On the bowls, the designs seem to have been made so as to be upright when the vessels stand with their orifices down.<sup>7</sup>

The patterns are mainly geometrical though some of the motives may have had a naturalistic origin.<sup>8</sup> As there are but two jars, no generalizations as to their designs can

ferences given in note 1 show no bowls whatsoever. The same is true of M. French-Sheldon (Sultan to Sultan, London, 1892) who figures many calabash vessels from the Pombe. The Peabody Museum collections from Uganda, Portuguese West Africa, and the Congo also lack this form. Tremearne (op. cit., figs. 49-60) shows four bowls, three jars, and one bottle from the Hausa country. He refers (p. 490) to still other forms thus: "The *du(m)ma* is a creeping and climbing plant which bears a small fruit (*gora*) which can be cut and used as calabashes. A smaller sized gourd is used as a water-bottle. If a long neck be present it is cut in two lengthwise, thus making a pair of spoons, or two ladles. If not cut in two, the gourd has a hole pierced at each end, and is then used as an enema."

<sup>4</sup> The trimming and smoothing of the edges make it difficult to determine this point.

<sup>5</sup> The processes employed in calabash ornamentation in Africa are numerous. Often the gourds are incised in much the same manner and with similar patterns as the widespread wood carving. Cf. Tremearne, op. cit., p. 239; Musée du Congo, op. cit., pls. 6, 7; C. L. Woolley and D. Randall-MacIver, *Karanòg*, Uni. Penn., Egyptian Dept., vol. 3, pl. 109, figs. 8144-8146. In both the Hausa and the Congo specimens, color is sometimes added in the incisions. The Hausas go still further with this sort of thing; they sometimes color the background and then make their incised decorations on this, thus producing a two colored design (Tremearne, op. cit., p. 199); they occasionally even color a considerable portion of the surface, and then cut away the background, leaving the colored design in relief (Tremearne, op. cit., p. 211). The Peabody Museum collection from Portuguese West Africa contains many gourd vessels with painted designs. On the Zambezi, pyrography prevails (Ratzel, op. cit., vol. 2, p. 549).

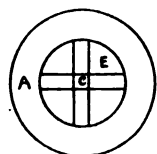
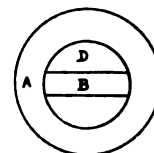
<sup>6</sup> Naturally those calabash vessels, in which the interior is largely hidden from the eye in their use, or where the interior is hard to get at to work, would have the ornament confined to the exterior surface. So most African gourd vessels would have no interior decoration. But with bowls, the case is otherwise; the exterior is largely hidden in their use, and the interior is very easy to get at to work. So this absence of interior decoration seems peculiar. Among the Hausas, who also have gourd bowls, the interiors are often decorated (Tremearne, op. cit., p. 221). Pottery vessels of the same form very commonly have their ornamentation on the inner surface. For example, cf. D. Randall-MacIver, 'The manufacture of pottery in Upper Egypt' (Jour. Anthropol. Inst., vol. 35, London, 1905, p. 20-29) pl. 4; A. Van Gennep, *Études d'ethnographie algérienne*, Paris, 1911, pls. 1, 2, 3.

<sup>7</sup> Tremearne's drawings seem to indicate that the same is true with the Hausa bowls (Tremearne, op. cit., figs. 50-60). This fact, perhaps, explains the lack of decoration in the interiors, mentioned in the preceding note.

<sup>8</sup> One is impressed on observing the scanty material available that the southern people of Africa favored more naturalistic designs than did those of the Sûdân or the Mediterranean. Though I have too little material to prove

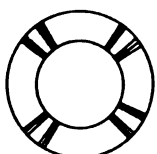
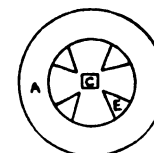
be made. The spaces available for ornamentation on them differ from those on the bowls, so certain combinations of the primary elements, which do not exist on the bowls, may occur on them (fig. 9, for example). These jars are shown in figs. 49 and 51.

On the bowls, there are definite zones to which certain figures are applied. In every case, there is a definite outer band A, which runs around the periphery of the bowl. This averages about 4 cm. in width. It occupies a considerably larger percentage of the entire surface on the small specimens than it does on the larger ones. Crossing the inner space, there may be a central band B which is treated as a unit in the decorative scheme. Between the central and outer bands, there are in this case two elongated spaces D, which are filled in by special motives. In some cases, there are two central bands crossing each other at right



angles. The space C, common to the two bands, and the triangular spaces E, formed by the outer and central bands, have their own peculiar treatment. Sometimes both central bands are absent.<sup>9</sup> In this case, the ornament is applied to the areas C and E, much as though the two central bands were present.

The outer band, in all cases, is bordered by a series of parallel lines on both sides (figs. 40-48). Between these lines, the area may be treated as a unit (fig. 40), and filled with three series of straight lines, crossing each other in such a way as to form a "cane chair-bottom" pattern. Usually, however, this space is broken up into eight parts; four small zones, and four larger ones between them. The small zones are usually merely blank spaces, bordered by parallel lines (figs. 37, 39). In one case, the spaces are filled by zigzag lines made by



rocking the incising tool (fig. 34). In the same specimen, the smaller zones are doubled and the intermediate spaces filled with crosses (fig. 38). The four large zones are greatly varied. They may be filled with the "cane chair-bottom" pattern (fig. 23), or with this and a blank space either above or below (fig. 24, 26), or with this space filled with zigzag lines (fig. 25).

Other elements used are series of parallel lines, alternating with blank spaces (fig. 28), and small triangles in rows (figs. 27). Or there may be combinations of these various elements (figs. 29-33).

The central bands consist of a double border of parallel lines (fig. 20), sometimes with

it, I believe that the ornamentation of these gourds has its affinities with that of the Hausa gourds, the Kabyle and Upper Egyptian pottery, the West Sūdān wood carving, and the leather work and other products of the general Sūdānic region. The culture seems to me to belong to northern rather than central Africa.

<sup>9</sup> In 6 cases. In 7 cases, there is a single central band, and in 6 cases, two central bands. The central band is absent in figs. 40, 42, 43. One central band occurs in figs. 41, 46, 47, 50. Two central bands are present in figs. 44, 45, 48, 52.



zigzag lines or the "cane chair-bottom" pattern added (figs. 21, 22), and a central area. This central area may be unfilled (fig. 20), or filled with small triangles in a line (figs. 35, 16), or with diamonds (figs. 36, 17), or occasionally with other forms (figs. 18, 19). Where two central bands are present, the area common to both of them may be empty, or filled with figures such as 11 and 14.

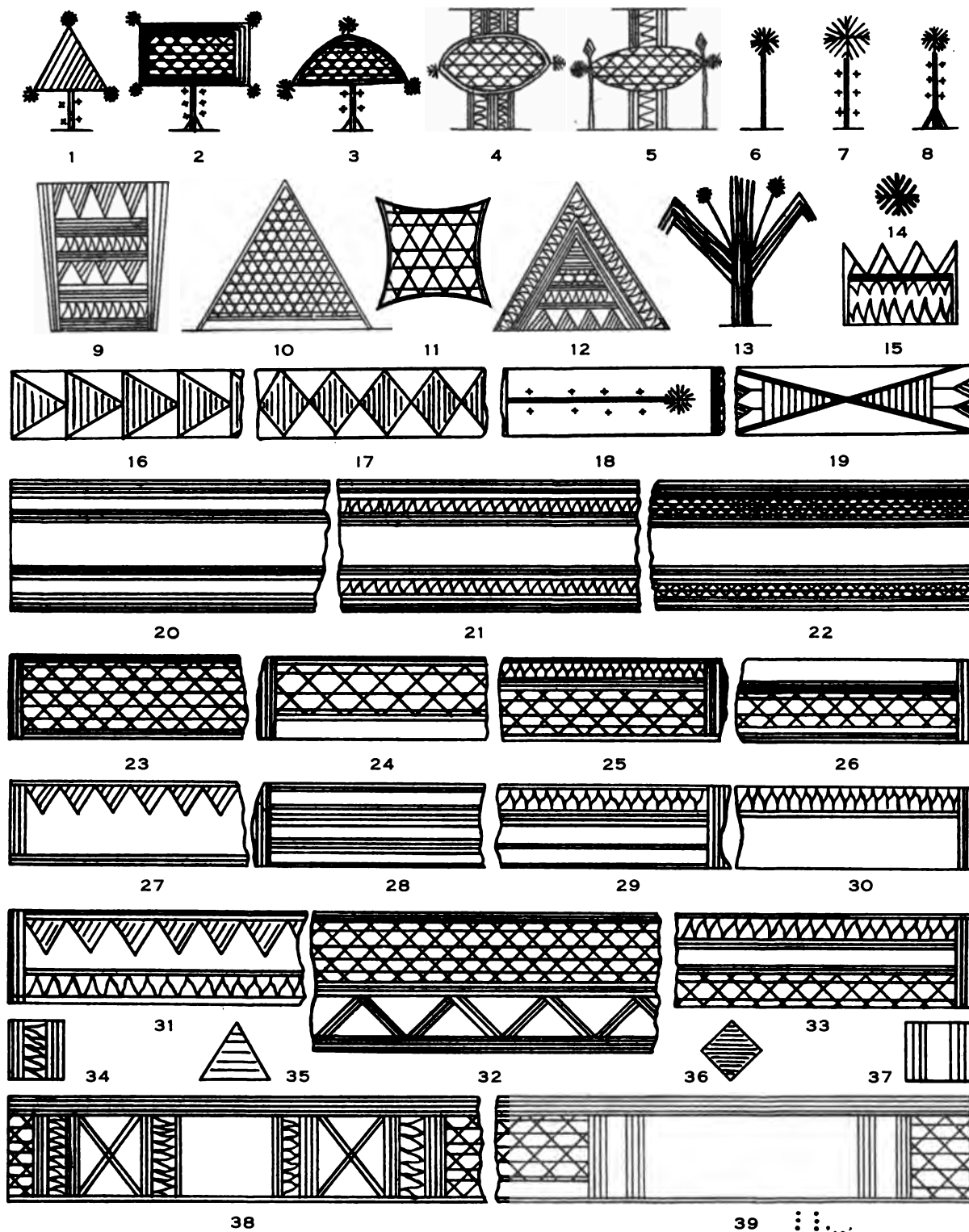
The spaces between the bands may be empty (fig. 48), or filled with such figures as 1 to 8, and 13. The meaning of these designs cannot be determined in the present state of our knowledge. They may be conventionalized flower forms (by proper arrangement of them, it can be made to appear that they were all so derived). On the other hand, fig. 5 looks like a shield and two spears, and the whole series might conceivably be derived from it. It has been suggested that fig. 13 may be a conventionalized representation of a pair of ostriches with raised wings, heraldically opposed. Forms somewhat similar, probably derived from running ostriches, appear on some of the incised Meroitic black ware jars excavated by the Peabody Museum's recent expedition to Gammai.<sup>10</sup>

When there are no central bands, the motives used in the decoration are the same as in the spaces between the bands when they are present, with the addition of such figures as 10, 12, and 15.

Even in a little study such as this, the dearth of good comparative material is only too evident. Technological descriptions of the manufacture and ornamentation of vessels of clay, wood, or gourd shells are very scarce. Careful studies of even the art motives of the various African tribes are scarcely to be found. The museums of the world possess many specimens, but far too little has been done to make them available to the student of African ethnology.<sup>11</sup>

<sup>10</sup> O. Bates and D. Dunham, Excavations at Gammai. Report in preparation for publication in this series.

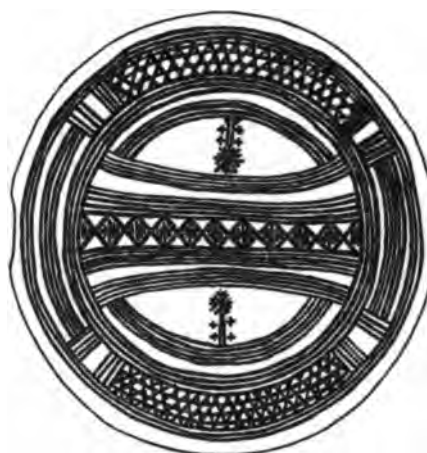
<sup>11</sup> The editors of the Harvard African studies will welcome articles containing careful descriptions of technological processes or of the art motives of individual African tribes, or, where the material is available, comparative studies of these things over the wider areas of the African continent.







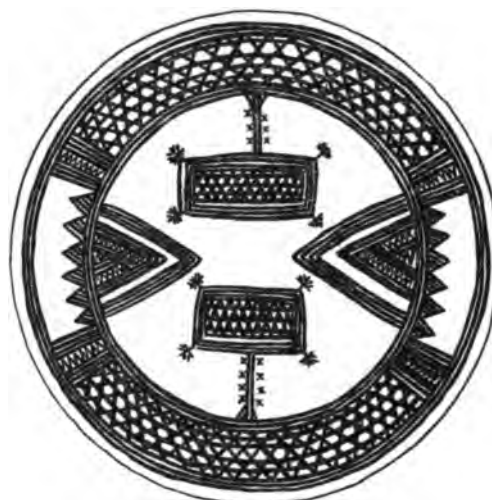
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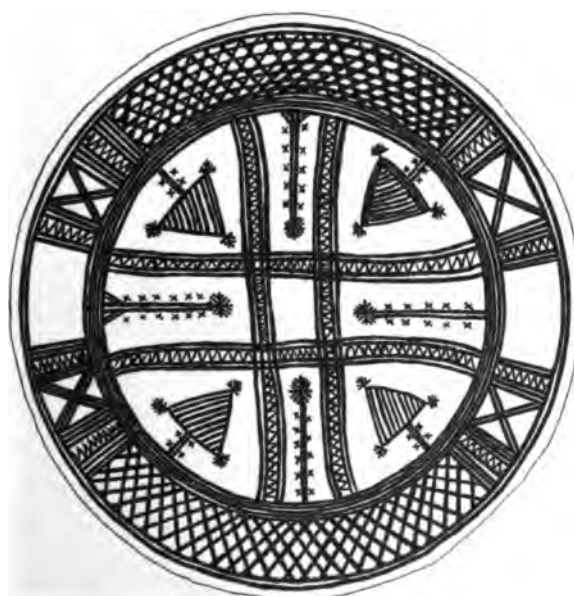
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## AN INSCRIPTION FROM GEBEL BARKAL

G. A. REISNER, PH.D.

[G. A. Reisner, in a brief letter dated Kareymah, Dec. 12, 1916, generously forwarded for publication in this volume the barbaric inscription in Greek letters reproduced on the accompanying plate. Despite its shortness, the document is one of some interest because of the possibility that it owes its origin to the "X-Group" people, of whom the archaeological remains were first distinguished in 1908 during the initial year of the Archaeological Survey of Nubia, and whom, during the course of our excavations at Gammai (Second Cataract) Dows Dunham and I were fortunately able to identify conclusively with the Blemmyes.<sup>1</sup>

In his letter Reisner regretted that he was unable to send a larger photograph of the inscription; he wrote from the field, where he was much occupied with the work of excavation, and where he lacked the books that might have enabled him, had he found time to use them, to identify the language of the text. I have not myself had an opportunity to make any researches in this direction, but I have ventured to append to Reisner's brief statement regarding the finding of the inscription a short note which was hastily made after this volume was already in the press. Ed.]

The accompanying inscription was found at Gebel Barkal in our trench "Barkal 500 A". It was discovered in the upper débris north of the first pylon of the Great Temple ("Barkal 500") on Feb. 22, 1916. Register no. 16-2-152. The slab is a grave stela belonging to the late pre-Christian cemetery 500, of which only five graves have thus far been excavated. The pottery from these graves appears to resemble that of the X-Group. I would tentatively estimate the date of the stela as being between 300 and 500 A.D. The photograph which I send is the only one now by me — it is C. 7118, taken March 4, 1916, at Gebel Barkal. G. A. Reisner.

[The initial cross suggests that the stela is of Christian origin despite the fact of its being found in a cemetery of pagan character. This suggestion is strengthened by the conclusion of the text. Although obscure, the reading is almost certainly ANAIIATZON as given in the copy. From the bottom of the first H in line 9, to a point just to the left of the O in line 11 ran a transverse scoring on the face of the slab before the last lines were cut. This line has been in part removed (in the region of the EN or EAI of line 10) owing to intentional or accidental wearing down of the surface. ANAIIATZEI or -ZON

<sup>1</sup> The report on the work at Gammai is now in preparation and is soon to be published in this series.



appears regularly in the late Christian inscriptions of Lower Nubia where in the fullest formulas we have — **ΑΝΑΠΑΤΖΟΝ ΤΗΝ ΨΥΧΗΝ ΑΥΤΟΥ ΕΝ ΚΟΛΠΟΙΣ ΑΒΡΑΑΜ ΚΑΙ ΙΣΑΑΚ ΚΑΙ ΙΑΚΩΒ ΚΑΙ ΠΑΝΤΩΝ ΤΩΝ ΑΓΙΩΝ ΑΜΗΝ**+.<sup>2</sup> It is not necessary to suppose that the word is here employed with any real knowledge beyond a vague general idea of its propriety in a mortuary inscription. The initial letter of line 2 may perhaps be a K and not, as transcribed, a P. The beginning of line 3 may be Π and not ΓΙ. Line 5, final Δ seems clear, though preceded by N and followed by M (in line 6). End of line 10—it is perhaps possible to read EN as EAI, in which case one would be tempted to consider the lection **ΕΛΙΣΑΒΕΤ = ΕΛΕΙΣΑΒΕΤ**. The form of the letters, the separation of the lines, and the general aspect of the inscription strongly recall the Christian grave stelae of Lower Nubia. I regret that the time at my disposal has not permitted me to go into the question of the language of the inscription enough to determine whether the text is in Old Nubian or in some language of the Bega group. Ed.]

<sup>2</sup> Cf. The Christian inscriptions given by C. M. Firth, *The Archaeological Survey of Nubia, Report for 1908-1909*, Cairo, 1912, Appendix 2, p. 45-50.

1 +NEYCI KAI  
 2 RIROYΛHTH  
 3 ΓIAN TI TIK  
 4 TΩPOCKOC  
 5 MONTONΛ  
 6 KOCNKOO  
 7 MHICAN  
 8 TI ΘΩEKH  
 9 MHΘHMHNI  
 10 XIENCXBET  
 11 ANΔΠAYCON

1. TRANSCRIPTION



2. ORIGINAL



20

## ANCIENT EGYPTIAN FISHING

ORIC BATES, M.A.

§ 1. **Sources.** The material on which this study is based is largely archaeological. The documentary evidence on Egyptian fishing is so slight and fragmentary that it is only from the ancient implements which have survived until our time, and from the ancient representations of fishing scenes, that the technical history of this important industry can be reconstructed. The implements carry us back in time very nearly to the beginning of the predynastic period, and until the Old Kingdom constitute our principle source of information regarding Nilotic fishing. From the beginning of the Old Kingdom until the Late Period, the material remains are of less importance than the scenes depicted on the tombs; but thereafter, owing to the changes in the interests of the Egyptian artist, the implements themselves again become of prime significance.

The tomb sculptures and paintings, especially those of the Old Kingdom, form here, as in so many other cases, an invaluable source of information. In their striving faithfully and accurately to portray the subjects they depicted, the artists of the IV, V, and VI Dynasties have bequeathed to us a wealth of ethnographic material. The reliefs of the XII Dynasty, and of the Middle Kingdom as a whole, while largely indebted to Old Kingdom originals, are in themselves hardly less valuable than the earlier representations. The tendency to follow earlier models was deeply enough implanted in the sculptors of the Middle Kingdom tombs to make their innovations of exceptional interest. When, for example, we find a new type of fish harpoon shown for the first time in a Middle Kingdom scene, there is every reason to suppose that the artist has represented an implement with which he was personally familiar, instead of a stock type of the Old Kingdom. In the XVIII, XIX, and XX Dynasties the waning of the old magico-religious impulse which had originally conditioned the evocative tomb reliefs, and the growing interest in courtly and ceremonial themes, naturally led to an indifference as to the details of the scenes of daily life. This indifference eventually extended in a general manner to the genre scenes themselves, which in the Late Period finally ceased to be a feature of the Egyptian tomb.

In using the tomb paintings as evidence, one point should always be borne in mind; the life reflected in the fishing scenes is that of the Delta. This is shown to be the case by the whole character of these representations, in which we view a marsh land of papyrus

brakes and of small canals or streams, where the sluggishness and shallowness of the waters are brought home to us by the fact that the boatmen generally propel their craft not with paddles, but with punting poles.

Besides the scenes themselves, the tombs afford yet further evidence which demands passing notice; I refer to the hieroglyphs of the inscriptions. When well cut, the glyphs — especially those of the Old and Middle Kingdoms — sometimes throw a great deal of light on technological details. I have more than once, as the reader will presently see, had occasion to cite a hieroglyphic sign by way of illustration.

I regret that in writing this paper I have not had access to an adequate Egyptological library. Owing to this cause I have not been able to consult several works of importance — the tomb of Mera, for example, although it has been published by G. Daressy, I know only from a partial and summary line drawing reproduced by J. de Morgan. Lack of books and of philological knowledge, moreover, have prevented me from attempting to deal with the terminology of Egyptian fishing — a phase of the subject which certainly ought not to be ignored. Despite these drawbacks I hope that, if some important evidence has of necessity been overlooked, little which is really essential to the subject has remained wholly unnoticed; and that even if it has, this paper may serve as a useful point of departure for a more complete treatment from abler hands.

In my endeavor to make my treatment of the subject as complete as the materials at my disposal permitted, I have dealt not only with fishing, but with the chase of the hippopotamus as well. This I would not have attempted had these animals not been hunted in boats, and with harpoons often indistinguishable from those employed in the capture of large fish. Had I wished to give a complete picture of the occupations of the marsh men, it would also have been necessary to discuss the technology of fowling — a subject so important as to deserve special treatment. I have here confined myself to an account of those devices by which the ancient Egyptian secured animal food from the waters of the Nile, being well aware that such an account, even were it perfect, would yet leave some important phases of the life of the fisher folk untouched.

It ought to be said that in drawing the illustrations listed below I have in several cases restored the original, when the restoration was absolutely certain and desirable from the point of view of clearness. I need hardly say that in no instance have I trifled with my sources in this respect — such restorations as I have made have been in the nature of supplying a foot, an eye, or a profile to a figure, or of rendering by an unbroken line one which in the original was here and there imperfect. Figs. 116–118, 120, 202, 205–208, 234, 241, 242 represent objects found in the course of my own excavations at Marsa Maṭrūḥ (Paraetionium) and at Gammai (Second Cataract): for the sources of the other illustrations the reader is referred to the subjoined list. The letters accompanying the

figures in the plates refer to the dates of the originals, whether the latter are representations or actual specimens:—

P = predynastic	N = New Kingdom
Z = late predynastic or early dynastic	L = Late Period
O = Old Kingdom	R = Ptolemaic-Roman
M = Middle Kingdom	m = modern

In accordance with these divisions the illustrations may be thus indexed:—

- P. 1-13, 15-18, 48, 50-59, 60, 87-89, 95.  
 Z. 19-20, 49, 68-70, 73, 74, 90-94, 96, 97, 202, 216, 233, E.  
 O. 14, 21-27, 37-41, 45, 61-63, 66, 75-77, 82, 83, 103, 122-124, 126, 127, 129-132, 137-141, 148, 161, 162, 164, 170, 172-174, 176-181, 183, 186, 187, 189, 191, 192, 213, 219, 220, 223, 224, 226, 227-232, 243, 244, 247, C, D.  
 M. 28, 29, 32-36, 42-44, 47, 64, 65, 67, 79-81, 98-102, 104, 125, 128, 142, 147, 163, 165, 167-169, 171, 175, 182, 184, 185, 214, 215, 217, 218, 221, 225, 239, 240, 246.  
 N. 30, 31, 46, 71, 72, 78, 105-112, 155-159, 166, 188, 193-201, 203, 204, 212, 222, 235, 236, 245, 248-250.  
 L. 113-115, 160, 251, 252.  
 R. 116-120, 205-208, 234, 237, 238, 241, 242, 253.  
 m. 84-86, 121, 133-136, 143-146, 149-154, 190, 209-211, A, B.

#### LIST OF ILLUSTRATIONS

- E. R. Ayrton and W. L. S. Loat, *Predynastic cemetery at El Mahasna*, London, 1911. Pl. XVIII, 5 = 8; XIX, 1 = 6; XX, 3 = 50; XXIII, 3 = 7, 9.  
 F. W. von Bissing, *Die Mastaba des Gem-ni-kai*, vol. 1, Berlin, 1905. Pl. IV, 2 (cf. XXIX, 215, 212) = 103, 141; XVII (cf. XXIX, 216, 216a, 214) = 129, 170.  
 A. M. Blackman, *The rock tombs of Meir*, vol. 1, London, 1914. Pl. II = 28; III (cf. XX, 1 and XXX) = 33, 34, 142.  
 A. M. Blackman, *The rock tombs of Meir*, pt. [sic] 2, London, 1915. Pl. IV = 29, 36, 44, 147.  
 A. M. Blackman, *The rock tombs of Meir*, pt. 3, London, 1915. Pl. VI = 42, 128; VII = 43; VIII = 165.  
 L. Borchardt, 'Drei Hieroglyphenzeichen' (*Zeitschrift für Ägyptische Sprache und Altertumskunde*, Leipzig, 1908, vol. 44, pt. 1), fig. 3 = text fig. C; fig. 5 = text fig. D.  
 G. A. Boulenger, see below, [W.] L. [S.] Loat. Cairo, private collection in = 245.  
 J. F. Champollion, *Monuments de l'Égypte et de la Nubie*, Paris, 1835 sqq. Vol. 4, pl. CCCIII (*bis*) [= I. Rosellini, I monu-  
 menti dell' Egitto e della Nubia, Pisa, 1832 sqq., vol. 2, pl. CVI, 4] = 21.  
 V. Denon, *Voyages dans la Basse et la Haute Égypte, pendant les campagnes de Bonaparte*, etc., London, 1807, Atlas, pl. XCIII = text fig. B.  
 N. de G. Davies [and F. Ll. Griffith], *The mastaba of Ptahhetep and Akhethetep*, pt. 1, London, 1900. Pl. XV, 327 = 61; 333 = 62 (inverted for purposes of comparison); 336 = 14; 339 = 63 (inverted for purposes of comparison); XVI, 353 = 247.  
 N. de G. Davies, *The mastaba of Ptahhetep and Akhethetep*, pt. 2, London, 1901. Pl. XV = 127; XVI (cf. XIV) = 140.  
 N. de G. Davies, *The rock tombs of Sheikh Saïd*, London, 1901. Pl. XII = 24, 27, 40 (left hand canoe restored from traces, and from two others not here reproduced), 162, 226.  
 N. de G. Davies, *The rock tombs of Deir el Gebrâwi*, pt. 1, London, 1902. Pl. III = 45; IV = 137, 161, 174, 177, 178, 179; VI = 130; XX (cf. IV) = 223; XXI = 138.  
 N. de G. Davies, *The rock tombs of Deir el Gebrâwi*, pt. 2, London, 1902. Pl. IV = 124; V = 139, 173; XXIII = 77.

- N. de G. Davies, *The rock tombs of El Amarna*, pt. 5, London, 1908. Pl. V = 158, 159.
- N. de G. Davies, *Five Theban tombs*, London, 1913. Pl. XXX, 2 (cf. XLI, bottom) = 30; 9 = 188; XXXVIII, 2 = 31.
- E. A. Gardner, *Naukratis*, pt. 2, London, 1888. Pl. XVI, 17 = 237.
- F. Ll. Griffith and P. E. Newberry, *El Bersheh*, pt. 2, London, n. d. Pl. XVI = 171.
- F. Ll. Griffith, *Beni Hasan*, pt. 3, London, 1896. Pl. V, 71 = 64 (inverted for purposes of comparison).
- F. Ll. Griffith, *A collection of hieroglyphs*, London, 1898. Pl. VIII, 112 = 65.
- F. Ll. Griffith, *Beni Hasan*, pt. 4, London, 1900. Pl. XIII, 3 = 80; 4 [cf. P. E. Newberry, *Beni Hasan*, Pt. 1, London, 1893, pl. XXXIV] = 47.
- W. Junker, *Travels in Africa during the years 1875-1878*, trans. A. H. Keane, London, 1890, p. 216 = text fig. A.
- R. V. Lanzzone, *Dizionario di mitologia egizia*, Turin, 1881-1886, Vol. 5, pt. 2, pl. CCCXCIV, 1 = 248; 3 = 250; 4 = 249.
- [W.] L. [S.] Loat, 'Report on the Nile Fish Survey' *ap.* G. A. Boulenger, *The fishes of the Nile*, London, 1907. Text, Pl. A = 152; B = 153, 154; p. xxiii, fig. 1 = 150; p. xxiv, 2 = 149; 3 = 211; 4 = 210; p. xxv, 5 = 151; p. xxvi, 7 = 121; p. xxxv, 16 = 190, 209; p. xxxvii, 19 = 133; 20 = 134; p. xl, 23a = 143; 23b = 144; 23c = 145; p. xlv, 25 = 85; p. xlvii, 26 = 135, 136; p. l, 28 = 86.
- R. Lepsius, *Denkmäler aus Ägypten und Äthiopien*, Berlin, 1849 sqq. Abt. 2, Bl. 9 = 176, 192; 46 = 164, 219, 220, 224 (some fish omitted); 77 = 22, 75; 96 = 228, 229; 105 = 25; 106 = 191 (The plate—XXI—on which this drawing is figured had already been printed when I discovered an inaccuracy in my copy. The bottom line in fig. 191 should be deleted, and the ends of the cross line on the float prolonged.)
- D. Randall-MacIver and A. C. Mace, *El Amrah and Abydos*, London, 1902. Pl. VII, 1 = 12; XII, 4 = 57; XLVI = 107, 109, 110, 111, 112.
- J. de Morgan, *Recherches sur les origines de l'Égypte* [I]; *L'âge de la pierre et les métaux*, Paris, 1896. P. 176, fig. 518 = 126, 148, 181, 183; p. 200, fig. 535 = 87.
- J. de Morgan, *Recherches sur les origines de l'Égypte* [2]; *Ethnographie préhistorique et tombeau royal de Négadah*, Paris, 1897. P. 87, fig. 227 = 48.
- E. Naville et al., *The XIth Dynasty temple of Deir el-Bahari*, pt. 3, London, 1913. Pl. XXIX, 5 = 104.
- P. E. Newberry, *El Bersheh*, pt. 1, London, n. d. Pl. XVII = 182; XXII = 169; XXIII = 214, 215, 221, 225.
- P. E. Newberry, *Beni Hasan*, pt. 1, London, 1893. Pl. XII = 163, 218; XXIX [cf. Lepsius, *Denk.*, Abt. 2, Bl. 127] = 125, 175; XXXII = 35, 185.
- P. E. Newberry, *Beni Hasan*, pt. 2, London, 1894. Pl. XXVIII = 32; XXXVIII = 167, 168, 184.
- R. F. E. Paget and A. A. Pirie, *The tomb of Ptah-hetep, ad calc.* J. E. Quibell, *The Ramesseum*, London, 1898. Pl. XXXII = 23, 26, 38, 39, 41.
- T. E. Peet, *The cemeteries of Abydos*, pt. 2, 1911-1912, London, 1914. Pl. III, b, 3 = 88; 4 = 89; XXXIX, 3 = 253.
- W. M. F. Petrie, *Naukratis*, pt. 1, London, 1886. Pl. XI, 8 = 115; 9 = 114.
- W. M. F. Petrie, *Tanis*, pt. 2, London, 1888. Pl. XXXVIII, 14 = 113.
- W. M. F. Petrie, *Kahun, Gurob, and Hawara*, London, 1890. Pl. XVII, 11 = 100; 12 = 101; 13 = 102; 16 = 240; 44 = 105; 45 = 106; XVIII, 20 = 236; 21 = 235.
- W. M. F. Petrie, *Illahun, Kahun and Gurob*, London, 1891. Pl. VIII, 3 = 239; 16 = 217; XXII, 16 = 108; XXVI, 47 = 72.
- W. M. F. Petrie, *Medum*, London, 1892. *Frontis.*, 13 = 66; Pl. XI = 187, 189; XVIII = 186.
- W. M. F. Petrie, *Koptos*, London, 1896. Pl. XV, 67 = 71.
- W. M. F. Petrie, *Naqada and Ballas*, London, 1896. Pl. XXXVI, 81, a = 15, 16; 81, b = 17, 18; LXI, 12 = 55; 13 = 53; 14 = 54; 15 = 56; 16 = 58; LXV, 7 = 59; 8 = 52; 17 = 95.
- W. M. F. Petrie, *Deshasheh*, London, 1898. Pl. V = 37, 172, 213.
- W. M. F. Petrie, *Royal tombs of the First Dynasty*, London, 1900. Pl. XXXVII, 35 = 69.
- W. M. F. Petrie, *Denderah*, London, 1900. Pl. V = 76, 180.

- W. M. F. Petrie, *Royal tombs of the earliest dynasties*, London, 1901. Pl. XXXV, 92 = 68; XLIV, 12 = 70; XLV, 19 = 97; 20 = 96. Extra plates, pl. IX A, 5 = 73, 74.
- W. M. F. Petrie, *Diospolis Parva*, London, 1901. Pl. XI, 4 = 1; 15 = 3; 16 = 4; 17 = 5; 18 = 11; 19 = 10; 22 = 2; XVI, 81a = 13; XX, 9 = 60; XXXII, 29 = 98; 30 = 99.
- W. M. F. Petrie, *Abydos*, pt. 1, London, 1902. Pl. LI, 20 = 216; 60 = 94; bottom = 233.
- W. M. F. Petrie, *Abydos*, pt. 2, London, 1903. Pl. III, 20 = 19, 20.
- W. M. F. Petrie, *Hyksos and Israelite cities* (double vol.), London, 1906. Pl. XXI B, 9 = 199; 10 = 196; 31 = 204; 33 = 194; 34 = 193; XXXVI C, 34 = 200, 201; 44 = 197; 45 = 198; 46 = 195; 47 = 203.
- W. M. F. Petrie, *Meydum and Memphis* (III), London, 1910. Pl. XL, 24 = 119.
- J. E. Quibell, *El Kab*, London, 1898. Pl. V, 5 = 246.
- G. A. Reisner, *The Archaeological Survey of Nubia*, Report for 1907-1908, Cairo, 1910. Pl. LXV, a, 1 = 93; 14 = 90; b, 1 = 51; 12 = 91; 13 = 92; 66, b, 43 = 49.
- G. Schweinfurth, *Artes Africanae*, Leipzig and London, 1875. Pl. II, 17 = 84; X, 3 = 146.
- G. Steindorff, *Das Grab des Ti*, Leipzig, 1913. Pl. CXI (cf. CX) = 131, 132; CXII = 232, 243; CXIV (cf. CXIII) = 82, 83, 122, 123; CXV = 244; CXVI = 231; CXVII = 227; CXVIII = 230.
- J. J. Tylor, *The tomb of Paheri*, London, 1895. Pl. V and VI = 166; VI = 155, 156, 157, 212, 222.
- J. J. Tylor, *The tomb of Sebeknekht*, London, 1896. Pl. III and IV = 67, 81.
- J. G. Wilkinson, *The manners and customs of the ancient Egyptians*, ed. S. Birch, London, 1878, Vol. 1, fig. 101 = 160; Vol. 2, fig. 365 = 46; 376 = 79; 377 = 78; 391, 2 = 238; Vol. 3, fig. 583 = 252; 585 = 251.

Let me here remark that in the notes to this paper I have made full citation of all titles, except those listed above, on the first occasion of quoting: on all following occasions I have used abbreviated titles.

§2. **Economic importance.** "The abundance of fish produced in the Nile was an invaluable provision of nature in a country which had neither extensive pasture lands nor large herds of cattle, and where corn was the principle production."<sup>1</sup> In these words, written more than two generations ago, Sir Gardner Wilkinson emphasized the importance of fish in the food supply of the Nile valley. Like most modern travelers, Wilkinson was impressed with the great quantity of fish consumed in Egypt, and recognized clearly that in ancient, as in modern times, the 'fish harvest' — *ἄμνητος ἰχθύων* as Aelian apply called it<sup>2</sup> — was an economic factor of great importance. It is true that, during the height of the annual inundation, Nile fishing in the river itself is very nearly at a standstill — the swiftness of the current then makes the manipulation of nets difficult; the silt renders the waters impenetrable to the eye; the fish easily find plenty of natural food; and ground hooks become speedily buried under a deposit of mud. But as these conditions do not, at the most, prevail for as much as three months in the year, and as the sudden fall of the river may be said to aid the fishermen almost as much as the inundation

<sup>1</sup> J. G. Wilkinson, *Manners and customs*, vol. 2, p. 122. The first European writer of modern times to lay stress on the value of the Egyptian fisheries appears to have been M. F. Wendelinus, *Admiranda Nili*, Frankfurt, 1623, p. 188 sqq., cap. 14, 'Piscium in Nilo copia'.

<sup>2</sup> Aelian, *De natura animalium*, ed. F. Jacobs, Jena, 1832, X, 43.



hinders them in their calling, this temporary suspension of the industry does not appreciably lessen the economic importance of the Egyptian fisheries, especially as in the Delta and the Fayûm they are never seriously interrupted.

In the remote days when man first dwelt in the Nile valley, we may with reasonable certainty suppose, he shared with the wild beasts and birds the countless fish which every year the falling river left stranded in its shallows, or cut off in its pools and backwaters. The consumption of fish thus inaugurated never markedly abated, as far as can be judged from the available evidence, in later times. Fish bones are regularly found in the prehistoric Egyptian kitchen middens<sup>3</sup>; and the numerous pisciform slate palettes, the fish-shaped pottery vases,<sup>4</sup> and the occurrence in predynastic graves of bone or horn harpoons, all indicate that long before the consolidation of the country under Menes fishing was a well established pursuit. In this connection the slate palettes appear to have a special significance which demands attention.

As is well known, these objects are found in great numbers in graves of the early and middle predynastic periods. By the beginning of historic times they lost that variety of form which distinguished them at an early date (S. D. 35-50), and they moreover became of much rarer occurrence. Although they continued in use in Nubia, where simple forms made of hard stones were employed for a considerable period, the latest example from Egypt belongs to the III Dynasty.<sup>5</sup>

The purpose of the palettes is, up to a certain point, perfectly clear; they served as tablets on which to grind malachite, ocher, galena, etc.— mineral colors which were crushed on the slates by means of round or ovoid flint pebbles. As to the use to which the colors, when ground, were put, archaeologists are so far agreed as very generally to admit that they were employed in body painting or face painting — a theory rendered probable *a priori* by the cultural state of the predynastic people, and substantiated by good evidence of a more particular sort. Beyond this point uncertainty reigns. It has been suggested that the powdered malachite served, as in parts of modern South Central Africa, as a surgical dusting; that the colors were used as an eye paint to deaden the glare of the sun; or that they were employed merely for purposes of personal decoration. None of these suggestions, however, accounts for the peculiar forms of the palettes themselves.

<sup>3</sup> J. de Morgan, *Recherches sur les origines de l'Égypte* [2], p. 87.

<sup>4</sup> These pisciform vases are common in predynastic times between S. D. 40 and 50. In the protodynastic period and the Old Kingdom they are not known, but in the Middle Kingdom they reappear, and continue down into the Late Period. The fish usually represented is apparently the *Lates niloticus*. It is noteworthy that the animal vases of the Hyksos period "are mostly in the form of fish, and are invariably made of the black pottery with pricked designs characteristic of that people"; M. A. Murray 'Figure-vases in Egypt' (*Brit. Sch. of Arch. in Egypt, Histor. studies*, London, 1911) p. 41 sq.

<sup>5</sup> G. A. Reisner, *The Archaeological Survey of Nubia*, vol. 1, p. 330 sq.

With the exception of the geometric and grotesque specimens, the palettes almost invariably present the profile of a fish, bird, or beast (figs. 1-11). Human figures are almost unknown.<sup>6</sup> Even the geometric palettes occasionally bear incised upon them representations of wild animals, such as the elephant or the crocodile. The animal forms are strictly limited to those birds, beasts, and fishes which in historic times were pursued for food. In the case of the fishes which the palettes represent, it is always hard, and generally impossible, to identify them with certainty; but the forms most commonly found strongly suggest two fish which in the tomb paintings are frequently depicted as the choicest prizes of the fisherman, and which are still regarded as the best catches the river affords.<sup>7</sup>

The care with which the palettes were made, especially during the earlier half of the predynastic period, and the nature of the subjects they depict, at once suggest to the comparative ethnologist a direct relation between them and the pursuits of the hunter, the fowler, and the fisher. Primitive man in his search for food frequently tries to establish an impalpable, but in his eyes a very serviceable, connection between himself and the object of his quest. One of the methods by which the hunter creates such a relationship is by making a likeness of his intended quarry.<sup>8</sup> Such a likeness, by the doctrine that a simulacrum is actively *en rapport* with that which it represents, bestows on its possessor power over the original — the case is one of the commonplaces of homeopathic or imitative magic.

Usually a hunting or fishing amulet which simulates the form of the quarry is designed to be worn by the owner, or to be attached to his gear. Obviously, nothing of the sort was done with the predynastic palettes, which were employed as paint stones. The power supposed to reside in a palette might, however, very efficaciously be transferred to its proprietor by means of the paint ground upon it.<sup>9</sup> 'Persons who go in pursuit of the

<sup>6</sup> A palette surmounted by a human face is figured by J. Capart, *Primitive art in Egypt*, trans. A. S. Griffith, London, 1905, fig. 52. The original is in the Petrie Collection, University College, London University.

<sup>7</sup> The fish in question are the bultī (*Tilapia nilotica*) and the keshr (*Lates niloticus*). Those desirous of studying the zoological aspects of this question will find full information in G. A. Boulenger, *The fishes of the Nile*. For identifications of the fish commonly portrayed on the O. K. tombs see Idem, *ap. Davies, Dier el Gebrāwi*, pt. 2, Appendix 2, p. 47, and von Bissing, *Gem-ni-kai*, vol. 1, p. 39-41, and pl. 26, figs. 38-48.

<sup>8</sup> E. g. the Point Barrow Eskimos, when following the whale, make use of a whale-shaped amulet of stone or wood; J. Murdoch, 'Ethnological results of the Point Barrow expedition' (IXth Ann. Rep. Bur. Amer. Ethnol., Washington, 1892), p. 435 sq., and figs. 422, 423. A Moslem work on magic instructs the fisherman to make a tin image of the sort of fish he wishes to catch, and to inscribe it with four particular letters. This image, made fast to the angler's line, will insure a good catch: E. Doutté, *Magie et religion dans l'Afrique du Nord*, Algiers, 1908, p. 263.

<sup>9</sup> Here too we are on familiar ground. "With the ancient Mexicans and Central Americans," says a well-known writer, "the ceremonial grinding plate or metate was an object of unusual consideration and was elaborated to represent the forms of various animals. It is entirely in accord with aboriginal methods of thought that the metate plate, taking the place of an animal god, should be regarded as possessing, through this association, the supernatural powers of the particular deity, or as being his actual body; and that the meal, the spices, the colors, the medicine, etc., ground upon it should be surcharged with supernatural potencies coming directly from and being part of the god himself";

crocodile', says Pliny, 'anoint themselves with its fat.'<sup>10</sup> In the same way that the crocodile hunter thus assimilates himself to his quarry by a direct contagion, so the owner of a palette could possess himself of the power in the slate likeness by painting himself with the 'medicine' ground upon it. An interesting illustration of this type of idea is seen in Ashanti. The natives of that part of Africa share the wide spread belief that neolithic celts are thunderbolts or meteorites. Medicines ground with them, they affirm, protect the user from lightning and from falling stars, and also give speed to the limbs. The reason is plain — he who takes the medicine is inoculated with the virtues of the stone: he need not fear the lightning, and to some degree he becomes a partaker in its swiftness.<sup>11</sup> If we suppose that the predynastic Egyptian, when about to go in pursuit of game or fish, chose an appropriate palette on which he ground a paint to serve him as 'medicine' in his undertaking, we have a simple hypothesis which not only fits perfectly with the cultural state of the predynastic people, but which satisfactorily explains why, in graves containing more than one palette, the specimens are apt to represent different kinds of animals;<sup>12</sup> why, as agriculture and the arts of settled life came to engage an increasing element in the population, the manufacture of palettes declined; why, in Nubia — where the restricted cultivable areas offered less temptation to the hunters and fishers than did the ampler lands of Egypt — the palettes survived longer than below the First Cataract; and why, as the palettes and the custom of amuletic face or body painting declined, amuletic beads and pendants became more common.

By this theory, moreover, can be explained the purpose of the great royal palettes of the protodynastic period. Long after the use of palettes and magical painting had declined, the king, upon whom were incumbent so many magico-religious duties, would still make use of the old 'medicine' for sundry purposes. Viewed in this light, a monument such as the famous palette of Narmer loses much that is enigmatical in its character: its shield form, and the triumphs it depicts, make it an eminently suitable slab on

W. H. Holmes, 'Certain notched or scalloped stone tablets of the Mound-Builders' (Amer. Anthr., N. S., vol. 8, Jan.-Mar., 1906, p. 101-108) p. 106. Palettes representing edible birds and fish occur in the Brazilian shell mounds; some excellent examples are figured by L. Netto, 'Investigações sobre a archeologia brasileira' (Archivos do Museu nacional do Rio de Janeiro, vol. 6, Rio de Janeiro, 1885), p. 501 sq. pl. 6, figs. 10 and 21. I am indebted for these references to my colleague R. B. Dixon.

<sup>10</sup> Pliny, *Naturalis historia*, ed. D. Detlefsen, Berlin, 1866-1882, XXX, 3 (8).

<sup>11</sup> A. W. Cardinall, 'Stone implements from Ashanti' (Man, vol. 17, no. 1, London, Jan., 1917, no. 5), p. 12.

<sup>12</sup> E. g., MacIver and Mace, *El Amrah and Abydos*, pl. 7, fig. 1; pl. 8, figs. 1, 2, 3. It may here be mentioned that MacIver found that at el-Amrah the palettes were in most cases placed in the graves of women or children; *Ibid.*, p. 47. This would militate against the theory set forth above but for two facts — the conditions at el-Amrah were exceptional, and even there the palettes were found associated with weapons: e. g., *Ibid.*, pl. 7, fig. 1. This association with weapons was common in the predynastic graves of Nubia: cf., e. g., Reisner, *op. cit.*, p. 118-120 (Cem. 17, grave 50, no. 36, mace head; no. 41, palette; no. 44, flint lance head); p. 122-123 (Cem. 17, grave 68, no. 3, mace head; nos. 8 and 7, flint fish tail knives or lance heads; no. 20, palette); p. 127 (Cem. 17, grave 89, no. 2, mace head; no. 5, palette).

which, in the circular cavity obviously destined for such a purpose, to prepare a 'medicine' which shall enable the king to secure other victories as sweeping as that which it commemorates<sup>13</sup> — it is, in short, a slab for grinding 'war paint'.

This digression I have made because it is clear that if the palettes are to be regarded in the manner I have suggested they testify emphatically to the great economic importance of fishing during the course of the predynastic age. In fact, viewed in this new aspect, they must be regarded as forming the largest body of evidence on fishing which has come down to us from the prehistoric period; for although the excavation of predynastic sites has resulted in the finding of a number of fishing implements, these latter are not nearly so numerous as the pisciform palettes. Even admitting that a high percentage of all fishing gear was lost in the water, the disproportion here still remains so marked that it may indicate a more general use of nets and weels than of harpoons, etc.—the former, however numerous, would quickly disappear, as has been the case with those employed during the historic period.

In dynastic times the great extent to which fish were used for food is amply attested by the regularity with which fishing scenes occur in the tomb paintings, as well as by sporadic textual notices. Among the commonplaces of Egyptian speech one finds a number of figures testifying to a general familiarity with the industry; a man is ironically described as having the health of a split fish;<sup>14</sup> a dyer's fingers recall the stench of rotten fish;<sup>15</sup> a smith is from his labors as malodorous as [sun-dried?] roe;<sup>16</sup> the Asiatics slain at the battle of Megiddo "lay stretched out like fishes on the ground";<sup>17</sup> the god Ptah says, when promising prosperity to Rameses II, "there is wealth and laudation at seeing thee, for plenty of fish and fowl are under thy feet."<sup>18</sup> More specific notices are not lacking — fish are issued with other rations to the troops of Seti I;<sup>19</sup> Rameses III included in his temple donations; "jars of the canal filled with fish",<sup>20</sup> "dressed šn'-fish", and "fish cut

<sup>13</sup> Charms, both oral and written, frequently contain narratives intended to promote their efficacy. Thus, a common Jewish charm against Lilith relates how Elijah threatened her until in terror she revealed to him her names, and swore that at the sight of them in writing she would at once depart: J. E. Hanauer, *Folk-lore of the Holy Land*, London, 1907, p. 325. I take it that the scene on the Narmer palette has a value comparable to this: the relation of Lilith's discomfiture by the prophet makes it easier again to put her to flight; the triumph storied on the royal palette adds efficacy to the medicine prepared upon it, by stimulating a repetition of the victory.

<sup>14</sup> G. Maspero, 'Du genre épistolaire chez les Égyptiens de l'époque pharaonique' (*Collect. philolog., Recueil de travaux orig. ou trad. relatifs à la philolog. et à l'hist. littéraire*, N. S., fasc. 7, Paris, 1872) p. 62.

<sup>15</sup> *Ibid.*, p. 61.

<sup>16</sup> *Ibid.*, p. 48.

<sup>17</sup> J. H. Breasted, *Records of ancient Egypt*, Chicago, 1906-1907, vol. 2, §431.

<sup>18</sup> *Ibid.*, vol. 3, §404.

<sup>19</sup> *Ibid.*, vol. 3, §207, cf. §208. Rameses II, telling his workmen how well they are provided, mentions that they have their own fishermen to keep them supplied, etc.; Ahmed Bey Kamal, 'Stèle de l'an VIII de Ramsès II' (*Rec. trav.*, etc., vol. 30, 1908, p. 216-217); cf. J. Baillet, *Le régime pharaonique*, etc., Paris, 1913, p. 589.

<sup>20</sup> Breasted, *op. cit.*, vol. 4, §243; 394.

up".<sup>21</sup> We read of preserved fish being sent to Syria<sup>22</sup>, and — as early as the XVIII Dynasty — of taxes paid by the fishermen to the state.<sup>23</sup> Such fishermen as were attached to the temples were, at least in some cases, tax exempt,<sup>24</sup> as must have been the case with those in the service of the king and court.<sup>25</sup> By the time of the New Kingdom fish ponds had become common: as early as the XIX Dynasty we read of a king causing pools to be stocked.<sup>26</sup> From the XXIII Dynasty, to cite yet one more Egyptian notice, comes a curious piece of evidence, preserved in the triumphal inscription of the Ethiopian king Piankhi. When Piankhi conquered the Delta princes, the latter were refused admission to the royal presence because they were fish eaters, and therefore violaters of a taboo which the king regarded as sacred. A single exception was made in favor of the prince Namlot, who — probably in virtue of some priestly office — "was pure . . . and eat not fish."<sup>27</sup>

The classical notices are almost as sporadic and fragmentary as the Egyptian ones, but they leave us in even less doubt as to the economic importance of the fisheries.<sup>28</sup> Those situated on the Lake Moeris canal, says Herodotus, were so productive as to bring into the royal treasury a talent of silver daily at the end of the inundation, and a third of that sum every day during the rest of the year.<sup>29</sup> As this implies an annual total of not less than £46,000, it is a little hard to accept the figures as they stand, but there is no reason to doubt that the Moeris fisheries were very rich.

A glance at the state of the Egyptian fisheries in modern times may serve to put the whole body of ancient evidence in its proper perspective. A generation ago, the sea fisheries on the Mediterranean coast of Egypt regularly employed something like 3,700 men and 800 boats, while the fresh water fisheries employed over 6,000 men. Of these latter about 4,000 men and 400 boats were engaged on Lake Menzâlah, the remainder being found on the other Delta lakes, the larger canals, and the Nile itself.

<sup>21</sup> Ibid., vol. 4, §243; cf. §380.

<sup>22</sup> Ibid., vol. 4, §582.

<sup>23</sup> Ibid., vol. 3, §62 — an allusion in the edict of Harmhab. The taxes were undoubtedly paid in kind: the Papyrus Harris mentions large donations of "water-fowl from the impost of the fowlers and fishermen"; Ibid., vol. 4, §229; §283.

<sup>24</sup> Ibid., vol. 4, §148.

<sup>25</sup> Ibid., vol. 4, §466.

<sup>26</sup> Ibid., vol. 3, §291. Such vivaria are at a later date referred to by Isaiah, XIX, 10 — "sluices and ponds for fish". The Israelites long cherished the memory of the fish which they "did eat in Egypt freely" — Numbers, XI, 5.

<sup>27</sup> Breasted, op. cit., vol. 4, §882.

<sup>28</sup> Herodotus, ed.<sup>2</sup>, C. Hude, Oxford, 1912, II, 93; Diodorus Siculus, ed. P. Wesseling, Amsterdam, 1746, I, 36 (vol. 1, p. 42). . . . ὁ Νεῖλος ἔχει παντοῖα γένη ἰχθύων, κ. τ. λ.; cf. Aelian, loc. cit.

<sup>29</sup> Herodotus, II, 149; cf. Diodorus Siculus, I, 52 (vol. 1, p. 62 Wess.). Diodorus remarks that the revenues of the Moeris fisheries were allotted to the queen as money wherewith to purchase unguents, etc.

The fresh water fisheries, which consisted of definite areas to each of which a number of men were attached, were farmed by Government to companies or private individuals. The farmers, who were frequently Copts, owned, wholly or in part, *halakahs* (markets) in nearby towns, where the catches were regularly auctioned off to retail dealers or to consumers. When the fisherman enrolled himself at a *halakah*, he received permission to fish certain waters, it being understood that his catches were to be sold only at the market to which he was attached. The profits from the sales were usually divided in the proportion of one third to the farmer, and the remainder to the fisherman.

The farming of Lake Menzâlah alone annually reached, under this system, a sum close on to £60,000, and the total catches of Egypt so far exceeded all local demands as to lead to the exportation of cured fish to Syria, Turkey, and Greece.<sup>30</sup> In addition it must be remembered that, outside the farmed waters, thousands of fellahîn in both Lower and Upper Egypt caught enough to supply their families once or twice a month throughout the year.

Enough has been said of the economic importance of the subject under discussion: the prejudices which, to some degree, anciently limited the consumption of fish in Egypt, and which might therefore be here considered, I have felt it best to deal with in the following section (§ 3). It only remains here to emphasize a point which has already been touched on — I refer to the prime importance of the Delta as the chief fishing district of Egypt. Although the richness of the Moeris fisheries attracted the notice of ancient writers, there can be no question but that it was in the Delta, more than anywhere else in the Nile valley, that the pursuit of fish was followed as a regular profession. Whereas every modern Nile village and town has its fish catchers, it is only in the Delta that one finds whole communities devoted to fishing — communities such as Baltîm by Lake Burlus, or the two Maṭariyahs on Lake Menzâlah,<sup>31</sup> where practically the entire population is dependent, directly or indirectly, on the fisheries. These modern conditions undoubtedly reflect essentially those anciently prevalent, though it is to be supposed that the Delta in Old Kingdom times was in some districts a jungly swamp only partially subdued by the agriculturist. In short, so prominent a rôle has fishing played in the lives of the Delta folk from the earliest times until the present day, that one is tempted to regard the prosecution of the industry as constituting a real cultural distinction between them and the inhabitants of Upper Egypt. Such a distinction is worth our consideration when contem-

<sup>30</sup> J. M. McCoan, *Egypt as it is*,<sup>2</sup> London, [1877], p. 312 sq., for the figures; Loat, *Report on the Nile fish survey*, p. xx, sq., for the system of farming. Cf. also Wilkinson, *op. cit.*, vol. 2, p. 125 sq., for fish farming in medieval times.

<sup>31</sup> Cf. P. S. Girard, 'Mémoire sur l'agriculture, l'industrie et le commerce de l'Égypte' (*Description de l'Égypte, État moderne*, vol. 2, pt. 1, Paris, 1809), p. 615.

plating those well-recognized physical differences which divide the inhabitants of the Delta from their southern neighbors of the Sa'id.<sup>32</sup>

§ 3. **Religious aspects.** The evidence afforded by the pisciform palettes, which occur in the richest as well as in the poorer predynastic graves, indicates that the consumption of fish in the prehistoric period was general, and not confined to any particular class of society. This state of affairs is in sharp contradistinction to that which prevailed during the Old Kingdom, when fish do not appear to have been a usual article of food among the nobles, though freely eaten by the peasants. Whereas the nobles are frequently represented as spearing large fish for the sake of sport, fish are never mentioned even in the longer versions of the offering lists of the Old Kingdoms,<sup>33</sup> nor, before the XII Dynasty, are they represented in the pictures of the viands provided for the deceased.<sup>34</sup> The omission is the more conspicuous in that the builders of the tombs did not disdain to mention or to depict such humble foods as birds and vegetables, and the oversight calls for explanation when one considers the all-inclusive character of the offering lists, and the regularity with which fishing scenes are depicted on the tomb paintings. The simplest way in which to reconcile the absence of fish from the offering lists with the frequent delineation of fishing scenes, is on the grounds that the upper classes in the Old Kingdom entertained a prejudice against fish as food — a prejudice which the peasants were so far from sharing that the painters of the tombs felt constrained to depict the capture of fish when portraying the daily life of the common people.

Cases in which, from religious or from other motives, people living by well-stocked waters abstain from fish — either wholly or to a great degree — are not hard to find. Of abstention on religious grounds we have already had an example in the conduct of the Ethiopian Piankhi: if we needed another, the case of the Syrian worshipers of Atargatis might be cited.<sup>35</sup> Of a secular — or perhaps one ought to say 'of a secularized' — aver-

<sup>32</sup> On the ancient economic importance of the hippopotamus the evidence does not allow much to be said. The capture of these animals must, even when they were common, have been of less real importance than that of fish, for the taking of the latter was a matter of daily habit, whereas the killing of hippopotami, even when of tolerably frequent occurrence, was a more exceptional event. The historical evidence on the hippopotamus in Egypt will be found below in §5.

<sup>33</sup> I am much indebted to J. H. Breasted, of the University of Chicago, for information on this point. Appended to a letter which he was good enough to send me was the following O. K. offering list which he had compiled from several sources: — *Preparatory*: (1-2) purification by water and incense; (3-9) seven sacred oils for anointing; (10-11) face-paints; (12) raiment. *Banquet*: (13-14) purification by water and incense; (15-18) directions for bringing table and taking seat at same; (19-29) bread and beverages, including one piece of meat; (30-43) fourteen kinds of loaves or bread; (44) onions; (45-54) meats (no fish); (55-59) fowl; (60-63) four kinds of bread; (64-76) beverages; (77-85) kinds of bread and grain; (86-92) miscellaneous (no fish); (93-94) purification by water and incense; (95-96) oils; (97) raiment.

<sup>34</sup> Figs. 214, 215 are from a M. K. scene in which fish are being brought to the owner of the tomb. For a N. K. example, see G. Maspero, *Tombeau de Nakhti*, (*Mém... de la Mission archéol. franç. au Caire*, vol. 5, fasc. 3, Paris, 1893) fig. 4, p. 480.

<sup>35</sup> W. Robertson Smith, *Religion of the Semites*,<sup>3</sup> London, 1907, p. 449.

sion to fish, the familiar shores of the ancient Mediterranean may afford some examples,<sup>36</sup> while modern Africa provides others of peculiar interest. Thus, one finds that "the sale of fish is limited in Bunyoro because pastoral people may not eat fish, nor indeed may they have it in their kraals: all people who drink milk abstain from eating fish and from touching it."<sup>37</sup> The agricultural peasants, therefore, are the only people able to eat fish."<sup>38</sup> Among the Suk, to the southwest of Lake Rudolph, "if a rich man eats fish the milk of his cows will dry up. Such a superstition", says the author who records it, "would appear to be based on an unwritten law that the rich man must not 'take the poor man's lamb'".<sup>39</sup> This explanation credits the Suk aristocracy with a charitable forbearance which it would be hard to parallel among any people in their stage of culture. That the true reason for this abstention lies in an irrational dislike, is indicated by the fact that fish are eaten not only by the poorer Suk but by pregnant women of the aristocracy as well.<sup>40</sup> From such a usage it is plain that the upper class entertains ideas regarding fish which are essentially foreign to those held by their inferiors. Even when such ideas are absent, or unrecorded, a marked difference in the amount of fish consumed by rich and poor may sometimes be observed. Thus, among the Baganda, fish formed a staple article in the diet of the poor, while among the wealthy it was less used.<sup>41</sup>

The origin of the prejudice against fish as food which prevailed among the Egyptian nobility of the Old Kingdom is indeterminable: its nature, however, can perhaps be discerned. At a much later period, when the decay of the old state religion allowed the popular superstitions of Egypt to find a freer expression, there is ample evidence to prove that certain religious ideas were attached to fish in general, that a few particular kinds of fish were especially regarded, and that in many instances these ideas tended in some slight measure to restrict the consumption of fish.<sup>42</sup>

\* It has been inferred, because of the absence of fishhooks among their remains, that the Terramare people of Italy abstained from fish; W. Helbig, *Die Italiker in der Poebene*, Leipzig, 1879, p. 74 sq.; cf. O. Schrader, *Sprachvergleichung und Urgeschichte*,<sup>2</sup> Jena, 1890, p. 165-167. As the absence of hooks does not preclude the possibility that fish were taken by means of weirs, weels, and nets, the case here is not conclusively proved. Yet that an aversion to fish existed in some parts of ancient Italy, e. g. among the early Romans, can hardly be denied; cf. Ovid, ed. P. Burmann, Amsterdam, 1727, *Fasti*, VI, 173 sq., and — for shellfish — Varro *ap. Nonium Marcellum*, ed. L. Quicherat, Paris, 1872, p. 223 = 216 M. For the Homeric prejudice against fish cf. G. Lafaye, '*Piscatio et Piscatus*' in Daremberg and Saglio, *Dictionnaire des antiquités grecques et romaines*, Paris, n. d. vol. 4, pt. 1, p. 489, and C. Tsountas and J. I. Manatt, *The Mycenaean Age*, Boston, 1897, p. 334.

<sup>36</sup> This reminds one of the Siwan belief that he who eats fish cooked with milk will be afflicted with taenia; M. M. 'Abd Allah, '*Siwan customs*' (Harv. Afr. Stud., vol. 1, p. 1-28) p. 25.

<sup>37</sup> J. Roscoe, *The northern Bantu*, Cambridge, 1915, p. 77.

<sup>38</sup> W. M. Beech, *The Suk; their language and folklore*, Oxford, 1911, p. 9 sq.

<sup>39</sup> *Ibid.*, loc. cit.

<sup>40</sup> J. Roscoe, *The Baganda, etc.*, London, 1911, p. 391.

<sup>42</sup> Those who regard the fish hieroglyphs as general determinatives for words meaning "shame", "evil" etc.—cf. Plutarch, *De Iside et Osiride*, ed. G. Parthey, Berlin, 1850, § 32 — will perhaps wonder at my not here adducing



Herodotus explicitly informs us that fish, whether from the Nile or from the sea, were strictly tabooed to the Egyptian priests<sup>43</sup> — a prohibition which Pythagoras was reputed to have endorsed.<sup>44</sup> Even when — either with a view of ensuring a good “fish harvest”, or their own well-being, for the ensuing twelvemonth — all Egyptians were constrained, on the ninth day of the new year, to eat fried fish before their house doors, the priests did not partake of the forbidden food, but burned their fish.<sup>45</sup> In this careful abstention I believe we see the later aspect of a taboo once universal among the class from which the priests were largely drawn: one more instance, in other words, of the survival among a priesthood of a prohibition which has become a “dead letter” for the laity. That even the noblest among the latter, long before the days of Plutarch or of Herodotus, had lost their aversion to fish, is not to be doubted. That the Delta princes were fish eaters has already been remarked; the large donations to the temples of fish, fresh or cured, mentioned by the Papyrus Harris was for the use of all the laity attending the festivals;<sup>46</sup> and when we find models of fish buried in XIX Dynasty foundation deposits<sup>47</sup> along with models of fowl, of haunches of beef, etc., the fact that fish are thus included with the other food surrogates points to their having become by that time an almost universal article of diet.

However slightly the abstention of the nobility of the Old Kingdom, and of the priesthood in later times, may have affected the economic aspects of Egyptian fishing as a whole, it is safe to say that in the Graeco-Roman period, and even before, popular religion appreciably restricted the consumption of certain fish in particular localities.

In the classical period several fish were venerated in Egypt — notably those three which were anciently known as the oxyrhynchus, the phagrus, and the lepidôtus. The

them in connection with the O. K. prejudice under discussion. I do not do so since the signs in question appear to be merely phonetic determinatives; cf. P. Montet, ‘Les poissons employés dans l’écriture hiéroglyphique’ (Bull. de l’Inst. franç. d’archéol. orient., vol. 11, fasc. 1) p. 48. It would, as a local survival of the old prejudice, perhaps be more legitimate to cite a ceremony annually performed at Edfû. The Edfû festival calendar contains the following passage — “fish are thrown on the ground and all the priests hack and hew them with knives, saying: ‘Cut ye wounds on your bodies, kill ye one another; Re triumphs over his enemies, Horus of Edfû triumphs over all evil ones.’” The meaning of this ceremony, as the text assures us, is to compass the destruction of the enemies of the gods and of the king; A. Erman, *A handbook of Egyptian religion*, trans. A. S. Griffith, London, 1907, p. 216. As far as I can judge, the magico-medical use of fish, of which the Hearst Papyrus and the Ebers Papyrus afford a number of examples, seems to bear neither in one direction nor the other with regard to this question.

<sup>43</sup> Herodotus, II, 37; cf. Clemens Alexandrinus, ed. J.-P. Migne, Paris, 1857, vol. 2, col. 447, *Stromat.*, VII, p. 305 Sylb. Herodotus states that only two fish were actually venerated in Egypt, viz., the lepidôtus and the eel; *Ibid.*, II, 72.

<sup>44</sup> Plutarch, ed. D. Wytténbach, Oxford, 1795–1830, vol. 3, pt. 2, p. 1007, *Symposium*, VIII, Quaest. 8, ii.

<sup>45</sup> Plutarch, *De Iside et Osiride*, § 7. Cf. Herodotus, *loc. cit.*

<sup>46</sup> W. M. F. Petrie, ‘Egyptian festivals and Nile shrines’ (*Brit. Sch. of Arch. in Egypt; Histor. studies*; London, 1911) p. 2; 3.

<sup>47</sup> *Idem*, *Six temples at Thebes*, London, 1897, pl. 16, fig. 15, fish from foundation deposit of Tausert; cf. *Ibid.*, pl. 18, foundation deposit of Siptah.

aversion for these three was general, because of the popular belief that, after the dismemberment of the murdered Osiris, the phallus of the god had been consumed by these fish — fish which of all others, writes Plutarch, the Egyptians for this cause held in special avoidance.<sup>48</sup> Underlying an avoidance so explained was, presumably, the idea that the abhorred fish were charged with a power which, however dangerous, partook of the nature of holiness: it is, therefore, not surprising to find that in some localities the oxyrhynchus was an object of worship. In the city which bore its name it was greatly venerated,<sup>49</sup> and we are even told that a long feud arose between the Oxyrhynchites and their neighbors of Cynopolis because the latter held the religion of the former in disesteem — a feud so violent that it had forcibly to be repressed by Roman authority.<sup>50</sup> So scrupulously did the Oxyrhynchites observe their taboo that they would not eat fish of any sort if caught with a hook, lest the latter might, at one time or another, have come in contact with the forbidden fish.<sup>51</sup> If they chanced to take an oxyrhynchus in a net, they let the whole catch go “preferring to have none rather than the most abundant draught, if a single one were found in it”.<sup>52</sup> The oxyrhynchus has been identified as a mormyrid — correctly, I believe, since the proboscis-like noses of the Mormyridae tally well with the meaning of the Greek name. If the identification is sound, further evidence of the respect anciently felt for the oxyrhynchus exists in the numerous small bronzes, dating from the late dynasties and from Graeco-Roman times, representing some sort of mormyrus, and found both in Upper and Lower Egypt. These representations, examples of which are here given in figs. 252, 253, usually show the fish mounted on what is generally held to be a sledge, but what may in reality be intended to represent a papyrus raft of a type described in the next section of this paper. In many instances the fish is represented as wearing the solar disc, the uraeus, and the cow's horns which form the most characteristic headdress of Hathor (fig. 253); and that in late times the oxyrhynchus

<sup>48</sup> Plutarch, *op. cit.* § 18; cf. Diodorus Siculus, I, 22 (vol. 1, p. 26 Wess.). According to the Egyptian texts some of the companions of Set turned themselves, in order to escape the vengeance of Horus, into *rmw* fish, one of which ate the phallus of Osiris. Horus, so the Edfu texts assure us, cleared the waters of these impure creatures; C. Hagemans, *Lexique française-hiéroglyphique*, Bruxelles, 1896, p. 717. The *rmw* often figure in a colorless way in the Book of the Dead; E. A. W. Budge, *The Book of the Dead; the chapters of the coming forth by day*. The Egyptian text; London, 1898, c. LXV, 12 = p. 147; c. LXV, 13 = p. 148; c. XCIII, i, 4 = p. 198, etc. At least twice in the Theban recension the *rm* fish is vaguely associated with Sebek; *Ibid.*, c. LXXX[V]III, 3 = p. 188; c. CXIII, 4 and 5 = p. 233 sq. Despite, or perhaps because of, the deed of which the *rm* was guilty, both Re and Hapi are referred to as eating it; *Ibid.* c. LXV, 12 = p. 147; c. LXV, 13 = p. 148. The eating of the divine phallus by a fish is found in the Tale of the two brothers; cf. *Idem*, *Osiris and the Egyptian resurrection*, London, 1911, vol. 2, p. 65. It is impossible to identify the *rm* fish, for the word *rm*, if it had at a very remote period, or in some localities, a restricted meaning, appears in use as a general term for fish in the O. K. texts; P. Montet, *op. cit.*, p. 46.

<sup>49</sup> Plutarch, *op. cit.*, § 7; Aelian, *op. cit.* X, 46.

<sup>50</sup> Plutarch, *op. cit.*, § 72.

<sup>51</sup> *Ibid.*, § 7, Aelian, *loc. cit.*

<sup>52</sup> Aelian, *loc. cit.*; cf. A. Deiber, Clément d'Alexandrie et l'Égypte (*Mém. de l'Inst. franç. d'archéol. orient.*, vol. 10, Cairo, 1904) p. 83–85.

was regarded as a form of, or at least as an associate of, the goddess, is perfectly clear from a relief in a temple in Khargah Oasis. The relief in question represents a mormyrid of some sort, below which are inscribed the words: "Hathor, Mistress of Sen [= Esna]".<sup>53</sup>

The phagrus was venerated at Syene and in the region of the First Cataract.<sup>54</sup> It has been doubtfully identified as an eel,<sup>55</sup> and connected, with greater reason, with the fish called maeotes. According to Clemens Alexandrinus the phagrus was revered at Syene, while the maeotes was worshiped at Elephantinê,<sup>56</sup> but as Aelian states that the phagrus worshiped at Syene was the same fish that was called "maeotes" by the people of Elephantinê,<sup>57</sup> and as both the places in question are within gunshot of each other, there is little question but that the two names apply properly to one fish. This conclusion is not weakened when we find that Plutarch<sup>58</sup> says of the phagrus what Aelian relates of the maeotes — viz. that it was held sacred because its appearance indicated the impending rise of the Nile.

About the lepidôtus, we are even less informed than we are as to the other two fish which Plutarch notes as those most generally avoided. It may perhaps be one of the barbels, of which small bronze images are not uncommon (fig. 251); but adequate proofs are here wholly lacking, and the only hint as to the nature of the lepidôtus is that afforded by its name (= "scaly").

Aside from the three fish just considered, we are told by Strabo of the worship of a fourth, not mentioned by Plutarch. The fish in question was the *latus* (*Lates niloticus*), which the Greek geographer tells us was revered, at the city named Latopolis, in its honor, in conjunction with a goddess whom he identifies with Athena.<sup>59</sup> Latopolis is the modern Esna, the Egyptian Sen (the Coptic Snê). I have already mentioned that in Khargah the name of "Hathor of Sen" is found in unmistakable association with a mormyrid: it is therefore puzzling to find that the fish chiefly worshiped at Esna was not a mormyrus at all, but a *Lates*. When, on the scattered stones of Esna temple we find carved various sorts of fish, and one, which is neither a mormyrus nor a *lates*, enclosed in a royal cartouche,<sup>60</sup> we are moved to question Strabo's accuracy. The geographer is however fully

<sup>53</sup> Wilkinson, op. cit., vol. 3, p. 342, fig. 584.

<sup>54</sup> Aelian, op. cit., X, 19; Clemens Alexandrinus, vol. 1, col. 119, Cohortatio ad gentes, p. 11 Sylb., where *Euphras* should be read *Euphras*.

<sup>55</sup> Wilkinson, op. cit., vol. 3, p. 342. Wilkinson (in loc.) remarks that the cult of the phagrus was also established at Phagrôriopolis, a city near the apex of the Delta; Strabo, XVII, i, 26 (p. 804 Cas.). Nothing substantiates this statement except the name of the town.

<sup>56</sup> Clemens Alexandrinus, loc. cit.

<sup>57</sup> Aelian, loc. cit.

<sup>58</sup> Plutarch, op. cit., § 7.

<sup>59</sup> Strabo, ed. C. Müller and F. Dübner, Paris, 1853-1877, XVII, i, 47 (p. 817 Cas.).

<sup>60</sup> Wilkinson, op. cit., vol. 3, p. 343, fig. 586.

confirmed in his statement, for whatever explanation may best account for the difficulties just noted, there has been found at Esna a Ptolemaic-Roman cemetery containing great numbers of *Lates niloticus*, mummified either by nature or by art.<sup>61</sup> Cemeteries of the same fish, unassociated with human remains, and dating from times at least as remote as the XVIII or XIX Dynasties, have been found elsewhere in Egypt, as at Gurob,<sup>62</sup> near Heracleopolis Magna. The situation of this latter cemetery, which is close to the old Moeris canal (the modern Bahr Yûsef) lends it an exceptional interest.

The association of Hathor with the fish cult at Sen-Latopolis raises an interesting but very complex question which it is here impossible to treat fully, but which certainly merits at least a passing mention: I refer to the presence in the Egyptian Pantheon of one or two divinities who, at least in later times, were, in a manner obscure but unquestionable, connected with fish.<sup>63</sup> The relationship between Hathor of Sen-Latopolis and a mormyrid is attested by the Khargah representation: a connection between the same goddess and the latus is suggested by the fact that in the fish cemetery of Gurob, just mentioned, was found a latus burial which contained, in addition to several pieces of pottery and a wooden fish, a small head of the goddess.<sup>64</sup> This latter evidence accords with Strabo's statement that at Latopolis, "Athena" and the latus were the two objects of devotion: for in the syncretism of Graeco-Roman times Hathor-Athena was often confounded with a form of Satet, the wife of the ram-headed Khnum, to whom, as the Egyptian texts inform us, chief reverence was paid at Sen.<sup>65</sup>

Another goddess, similar to the Hathor-Satet of Latopolis, and also represented as the wife of a ram-headed divinity, was Hatmehyt of Mendes in the Delta. The XVI Nome, of which Mendes was the capital, was distinguished as the only one in Egypt which had for its emblem a fish. The fish in question, apparently a *Schilbe mystus*, is regularly represented above the head of the patron goddess of the nome<sup>66</sup> — an association which may be fortuitous, but which, because of the evidence from Latopolis, is none the less suggestive.

<sup>61</sup> G. Gaillard and G. Dareesy, *La faune momifiée de l'antique Égypte* (Cat. gén. des antiq. égypt. du Mus. du Caire, Cairo, 1905), p. 72.

<sup>62</sup> W. M. F. Petrie and C. T. Currelly, *Ehnasya*, London, 1905, p. 35. At Gurob the fish were found buried without any attempt at embalming, though sometimes wrapped in a piece of net. One of the burial pits was lined with bricks, of which one bore the name of Rameses II. Near the cemetery was another of oxen. The origin of these fish cemeteries is obscure. The buried fish might conceivably be firstlings; cf. W. H. D. Rouse, *Greek votive offerings*, Cambridge, 1902, p. 51.

<sup>63</sup> A. Dieber, op. cit., p. 82 sq., has remarked the association of divine fish with Osiris, Isis, Hathor, Hatmehyt, etc.

<sup>64</sup> Petrie and Currelly, op. cit., p. 25 and pl. 40, figs. 22-27.

<sup>65</sup> Cf. R. V. Lanzone, *Dizionario di mitologia egizia*, vol. 5, p. 959.

<sup>66</sup> Lanzone, op. cit., vol. 4, p. 545 sq., and pl. 212, figs. 1, 2, 3. Cf. Dieber, op. cit., p. 83, fig. 23.

Without going further into these details it is enough here to emphasize the extreme rarity of such cases as those just mentioned. The Egyptian was, especially in the late days of unbridled syncretism and adoption of foreign religious elements, well acquainted with animal-headed divinities of nearly every description: he revered, in one locality or another, gods whose likenesses related them to a great variety of beasts, birds, and reptiles, and even to insects and inanimate objects. In this late magico-religious welter the almost total absence of any very common animal assumes an importance seldom attained by negative evidence. One cannot reconcile oneself to the almost entire absence of fish among the Egyptian deities of the later period except on the score that they were the subject of some peculiar prejudice endorsed by the priesthood.

Such a prejudice seems first to appear in the distaste shown for fish as food by the aristocracy of the Old Kingdom. This aversion may have been due either to the increase of cattle breeding, or — a more probable explanation — to the ascendancy in the Nile Valley of a small but dominant body of cattle owners, to whom the idea of a fish diet was repulsive on religious grounds. Whatever its origin, the lapse of time and the progress of civilization undermined the old taboo, which came eventually to apply only to the priesthood. The great dependence of the lower classes on fish perpetuated such primitive rites as the yearly eating of them on a certain day, and the priests so far acknowledged the importance of the ceremony as on that day to burn the fish they could not eat. Here and there fishing would be of enough importance to countenance the survival, as at Mendes, of a fish symbol, or, elsewhere, of a fish cult. The tendency for such local survivals to persist must have been strong, for in their general aspect they are totemic, and if they were so in fact as well as in appearance, they must have originated at an early period.<sup>67</sup> As the old taboo wore away, fish were no longer regarded as food only suitable for the peasant and the artisan; and whereas to the eating of some animals, such as the pig, the aristocracy of Egypt never became reconciled, the consumption of fish was, we may believe, general among the laity at the advent of the Late Period. Such, I take it, is the meaning of the evidence we have surveyed; it remains to be seen if the technology of Egyptian fishing tends to confirm or to contradict this interpretation.

Before passing to the technological aspects of the subject, I wish here to touch on a curious matter, which, while it is quite unconnected with what has just been said, seems more suitably mentioned here than elsewhere in this paper. On the north side of Lake Menzâlah, near the hamlet called Gemfî, a channel bifurcated at one end connects the lake with the sea. During the breeding season great shoals of būrf (*Mugil cephalus*) swim

<sup>67</sup> Cf. the occasional traces of unmistakably "clean" fish sometimes found in the religious texts — e. g., the *ḥd*, or *ḥdw*, and the *bt* which accompany the barque of Re; Budge, *Book of the Dead*. Text, c. XV, 43–44 = p. 44; c. C, 9 = p. 211; *Introd. hymns to Re*, p. 3; p. 5.

through the channel to deposit their ova in the Mediterranean. To the fishermen, waiting by the channel, the approach of a shoal is signaled by a lookout. On receipt of the signal great excitement ensues; the men rush to their boats, and with much yelling and shouting go to meet the fish. "In the wake and at the sides of the boat may be seen several porpoises, which know from past experience that this excitement means a meal of their favorite fish. The porpoises may be seen in numbers day and night, playing about near the entrance of the lake and up the channels. The fishermen consider that they help to frighten back the fish and there is a law against destroying them, notwithstanding the number of mullet they eat."<sup>68</sup>

This might pass for a mere curiosity did it not suggest several parallels which put it in a different light. "They use upon this coast to fish with harping irons," says an old traveler, writing of the natives of the Angola seaboard, "and waite upon a great fish that cometh once a day to feed along the shoare, which is like a grampas. Hee runneth very neere the shoare; and driveth great skuls of fish before him: and the negroes runne along the shoare, as fast as they are able to follow him, and strike their harping irons round about him, and kill great store of fish, and leave them upon the sand till the fish hath done feeding; and then they come and gather their fish up. This fish will many times runne himselfe on ground, but they will presently shove him off againe, which is as much as foure or five men can doe. They call him Emboa,<sup>69</sup> which is in their speech, A dogge; and will by no meanes hurt or kill any of them."<sup>70</sup>

"At the narrow outlet of this lake," writes Pliny of the lagoon of Latera near Nemausus in Gallia Narbonensis, "at stated seasons of the year innumerable multitudes of mullets make their way into the sea. . . . They immediately swim with all their speed towards the deep water. . . . to escape from the only spot suitable for spreading nets. As soon as the fishermen observe this, all the people — for great multitudes resort thither, being well aware of the proper time, and especially desirous of sharing in the amusement — shout their loudest, and summon Simo to the scene of action. . . . Sooner than you could have supposed, there are the dolphins, in all readiness to assist. . . . They at once cut off all escape to the open sea, and drive the terrified fish into shallower water. The fishermen then cast their nets" . . . . During the stress of the fishing the dolphins kill, but do not pause to eat, such fish as escape from the nets. "At last, when the catch has been made, they devour the fish they have killed; but being well aware that they have given too active aid to be rewarded with only one day's wage, they take care to wait there till the

<sup>68</sup> Loat, *op. cit.*, p. xxxi, sq.

<sup>69</sup> The usual Bantu word for dog is *mbwa*, *embwa*, etc.

<sup>70</sup> A. Battell, 'The strange adventures of Andrew Battell of Leigh in Essex,' etc. (Hakluytus Posthumus or Purchas his pilgrimes, ed. Glasgow, 1905-1907, vol. 6, p. 404 sq.)

following day, when they are filled not only with fish, but with crumbs soaked in wine as well."<sup>71</sup>

A similar tale is told by Marcus Mucianus of the fisheries in the Iasian Gulf in Caria.<sup>72</sup> There the dolphins voluntarily appeared without being called; each was thought to befriend some special boat, to which it attached itself despite the fact that the fishing was carried on at night by the aid of flambeaux.<sup>73</sup>

The same story is told of the ancient fisheries off the coast of Euboea;<sup>74</sup> a medieval writer describes the help which the Italian fishermen of his day received from dolphins;<sup>75</sup> while a more modern author informs us that similar conditions prevailed at Palamos in Spain.<sup>76</sup> In the Isle Sainte Marie, off the Eastern coast of Madagascar the dolphin is deemed sacred by the inhabitants: it is never harmed or eaten, because the people believe that it rendered a service to one of their ancestors.<sup>77</sup>

This variety of evidence raises the subject to one of importance. From the examples cited it becomes obvious that the belief that porpoises, dolphins, or other large sea creatures are the helpful friends of fishermen underlies the numerous stories which dwell on their kindly disposition and their affection for individual men: stories of which classical literature, with its legends of Arion, Taras, etc., affords a number of examples. To two such stories, since they refer, the one to Iasus, where, as has just been related, dolphins were thought to aid the fishing, the other to Caria in a more general way, special interest attaches. The first tale is to effect that a dolphin conceived a passionate admiration for a youth of Iasus, on whose death it either succumbed to grief or committed suicide.<sup>78</sup> The second relates that a king of Caria chained a dolphin in the harbor, and there kept it until the mournful antics of the prisoner's mates became so pitiful to see that the king ordered the captive to be released.<sup>79</sup> Such legends lead to the suspicion that in at least this particular locality the folk memory has retained some recollection of an old religious regard for the friendly sea creatures; a regard which, even until the fourth century B. C., preserved

<sup>71</sup> Pliny, *op. cit.*, IX, 8 (9). I have slightly condensed the account.

<sup>72</sup> The Iasicus Sinus, or Bargyliticus Sinus, was on the west coast of Caria, in the southeastern Aegean.

<sup>73</sup> M. Licinius Crassus Mucianus, *ap.* Pliny, *op. cit.*, IX, 8 (10). Cf. Aelian, *op. cit.*, II, 8.

<sup>74</sup> Aelian, *loc. cit.*; Oppian, *Halieutica*, ed. G. Schneider, Leipzig, 1813, V, 425 sqq.

<sup>75</sup> Albertus Magnus, ed. T. Turcius, N. Rodolphus, et al., Lyons, 1651, vol. 6, p. 653, *De animalibus*, 24.

<sup>76</sup> G. Rondolet, *Libri de piscibus marinis*, Lyons, 1554, p. 471, XVI, 8.

<sup>77</sup> J. G. Frazer, *Totemism and exogamy*, London, 1910, vol. 2, p. 636.

<sup>78</sup> Pliny, *op. cit.*, IX, 8 (8). On this topic in general cf. *Ibid.*, IX, 7 (8); Aelian, *op. cit.*, VI, 15; Aulus Gellius, ed. C. Hosius, Leipzig, 1903, VI (VII), 8 and references; Aristotle, *De animalibus historia*, ed. L. Dittmeyer, Leipzig, 1907, VIII, 48.

<sup>79</sup> Pliny, *op. cit.*, IX 8 (10).

enough force to lead the people of Iasus to adopt as a type for some of their coinage the device of a youth swimming beside a dolphin, which he clasps with one arm.<sup>80</sup>

As there is no means of telling whether or not there lies behind the respect paid to porpoises at Gemfī an ancient religious sentiment, the subject must no longer detain us. But in taking leave of it, I venture to suggest that in the belief that the porpoise or dolphin was the willing helper of the fisherman may lie concealed the obscure origin of such fish divinities as the Phoenician Derceto or Atargatis. I would further suggest that the study of all classical legends and beliefs such as those just mentioned ought, if carried out in a critical spirit and with a proper regard to their geographic distribution, to yield important results; for it is highly probable that in their origin they belong to the old Mediterranean Race.

§ 4. **The papyrus canoe.** The first item in the equipment of the Egyptian fisherman which demands our attention is the craft in which he followed his calling. The topic is one of some interest, since the vessels employed by the fishermen and fowlers, and indeed by the peasantry as a whole, were of a peculiarly primitive type. Long after boats constructed of planks had come into general use — and they seem to have done so before the beginning of dynastic times — the conservative fishermen sought their livelihood in small rafts or canoes made of papyrus canes bound together with cords. Even in classical times craft of this rude description were in general use in Egypt: Theophrastus alludes to them and mentions the manufacture of the papyrus cordage with which, as the monumental evidence shows, they were bound.<sup>81</sup> Pliny speaks of Nile boats “made of papyrus, rushes or reeds”,<sup>82</sup> and it is to such shallops that the poet Lucan refers in the line

Conseritur bibula Memphitis cymba papyro,<sup>83</sup>

though he is wrong, as the Egyptian representations prove beyond reasonable doubt, in mentioning the typical papyrus craft of the Nile as if they were similar in construction to the coracles of the Britons, Iberians, and Veneti.

The use of papyrus boats was not, as might at first be supposed, restricted to Lower Egypt. Celsius informs us that they were employed in shooting the rapids of the First Cataract.<sup>84</sup> This should be borne in mind in connection with the two passages of Strabo, in the first of which the geographer describes the skill of the boatmen round Syene in shoot-

<sup>80</sup> B. V. Head, *Historia numorum*, Oxford, 1887, p. 528. The type, as Head observes, is mentioned by Pollux, *Onomasticon*, ed. W. Dindorff, Leipzig, 1824, IX, 84.

<sup>81</sup> Theophrastus, ed. F. Wimmer, Leipzig, 1854–1862, *Historia plantarum*, IV, 8, 2.

<sup>82</sup> Pliny, *op. cit.*, VII, 56 (57) . . . in Nilo ex papyro ac scirpo et harundine; cf. *Ibid.*, VI, 22 (24); XIII, 11 (22) . . . ex ipso quidem papyro navigia texunt . . . etiam stragula ac funes.

<sup>83</sup> Lucan, ed. F. Oudendorp, Leyden, 1728, IV, 136.

<sup>84</sup> O. Celsius, *Hierobotanicon, sive de plantis Sacrae Scripturae*, Amsterdam, 1748, pt. 2, p. 148.



ing the rapids,<sup>85</sup> and in the second of which he relates how he himself crossed over to Philae from what is now the station of esh-Shellâl. "We crossed over to the island", he writes, "in a pactôn (πάκτων), which is a small boat made of rods, whence it resembles woven work. Standing in the water, or sitting on some little planks, we easily crossed over, with some alarm indeed, but without cause for it, as there is no danger if the boat be not overloaded."<sup>86</sup> It has been debated<sup>87</sup> whether Strabo's pactôn was a reed canoe such as those so frequently depicted on the monuments, or a wicker coracle. The geographer's account is not incompatible with the latter view, nor does the name of the boat forbid us to entertain it.<sup>88</sup> When, furthermore, we learn<sup>89</sup> of boats which could, like some modern canvas ones, be folded and again set up for use, we may even be inclined to regard the coracle theory as the more rational of the two. Those who adopt it will, nevertheless, be confronted with two difficulties: the absence of the coracle among the many types of boats shown on the ancient representations, and the fact that it is unknown today on the Sudanese Nile, where the papyrus boat and other primitive craft are in daily use.

The persistent survival of these "vessels of bulrushes"<sup>90</sup> from the days when they were figured on the walls of the Old Kingdom tombs into the Graeco-Roman period might be taken as a striking example of Egyptian conservatism, were it not rather an instance of Egyptian common sense. Plutarch, to be sure, intimates that the use of these craft was encouraged by a current superstition regarding them. He relates that, after the death of Osiris, Isis sought for the slain god "through the fens in a boat made of papyrus, whence it is believed that persons using boats of this sort are never attacked by crocodiles, out of fear and respect to the goddess".<sup>91</sup> That such a primitive type of vessel may have figured in a venerable popular legend is easily credible, but one need not for the survival of the type turn to any but the most practical considerations. Wood suitable for boat building was anciently far dearer than papyrus canes; between the labor involved

<sup>85</sup> Strabo, XVII, i, 50 (p. 818 Cas.).

<sup>86</sup> Ibid., loc. cit.

<sup>87</sup> Cf. Wilkinson, op. cit., vol. 2, p. 206.

<sup>88</sup> Πάκτων is from the root ΠΑΓ-, common to πακτώ and to παγγνώ: cf. I. Scapula, *Lexicon Graeco-Latinum*, etc., ed. Glasgow, 1816, vol. 2, p. 111.

<sup>89</sup> Pliny, op. cit., V, 9 (10) tells us that the Ethiopians who visited Elephantinê had boats which were made to fold up (plicatiles), and which the people carried on their shoulders when they came to the Cataracts. This statement lacks archaeological confirmation, and such endorsement as modern parallels from the Upper Nile might give it.

<sup>90</sup> It is thus that they are referred to by Isaiah, XVIII, 20.

<sup>91</sup> Plutarch, op. cit., § 18. . . . ἐν βάριδι παπυρίῃ τὰ θεῶν διεκπλέουσιν· ὅθεν οὐκ ἀδικεῖσθαι τοὺς ἐν παπυρίοις σκάφεσι πλέοντας ὑπὸ τῶν κροκοδείλων ἢ φοβουμένων ἢ σεβουμένων διὰ τὴν θεόν. The βάρις was, strictly speaking, a wooden boat; Herodotus, II, 96. The name is Egyptian; cf. Hagemans, op. cit., p. 80. Classical and other notices of the Bāris will be found in J. Alberti, *Hesychii Lexicon*, Leyden, 1746, vol. 1, p. 695, n. 1; cf. C. Torr, *Ancient ships*, Cambridge, 1895, p. 106 sq.

in building a wooden boat and in bundling together a few loads of papyrus there is no comparison; and, finally, the wooden boat when finished would have been much less adapted to the navigation of shallow backwaters and winding channels choked with water plants, than would the lighter craft of cane. An ancient novelist pictures the last of these advantages in a passage worth citing. He remarks that, when the Nile falls, the recently flooded areas are filled not so much with water as with mud — a mixture which folk can not only traverse by wading, but which they can also pass in boats constructed to hold only one person — any other sort would be stuck in the mud, but those they use are so light and small, and require so little water, that if none be found they take them on their backs and carry them till they reach a place where it is deep enough to use them.<sup>92</sup> This portability was an asset almost equally valuable to the hunter, the herdsman, or the fisher who had to work his way through the sluggish creeks and canals of the Delta, and to him whose home was by the more dangerous waters of the Cataracts.

Despite the simplicity with which, as will presently be seen, the papyrus canoes were constructed, they exhibit not a little variety of design. Two principle types may be at once distinguished — those which deserve in the more restricted sense, to be called rafts, and those which were made with slightly raised gunwales, and which therefore resembled the so-called “balsas”<sup>93</sup> and the *ambaj*<sup>94</sup> canoes now in use on the White Nile.<sup>95</sup> Although it is conceivable that the latter of these two types was evolved from the former, the differences in their structure are so pronounced as to give color to the suspicion that they were derived from separate prototypes. On the Sudanese Nile at the present day the two types, structurally so akin, are found side by side; and one can even recognize the two different prototypes from which they were respectively evolved.

In Dongola Province the natives employ, as swimming floats, triangular frames of durrah stalks, sticks, or reeds, lashed together with cords in such wise as to resemble in arrangement the sticks of an opened fan. In use, such a raft is placed under the swimmer's chest, the apex of the triangle being nearly under the chin. In this primitive device may be seen the germ of the *ambaj* rafts of the Shilluk on the White Nile, of which an

<sup>92</sup> Achilles Tatius, ed. F. Jacobs, Leipzig, 1821, IV, 12 (p. 93). The passage concludes — *Εἰ δὲ τῶν ἀνδρῶν εἷς, ἀράμενοι τοῖς πῶτοις οἱ πλωτῆρες τὸ πλοῖον φέρουσιν, ἄχρως δὲ ἐπιτίχουσιν ὕδατος.*

<sup>93</sup> The word “balsa,” though originally limited in its application to the reed canoes of South America, has now become a convenient term by which all such craft may be designated. Essentially, the balsa consists of two or three cigar shaped bundles of reeds lashed together and slightly turned up at the ends. For examples cf. F. W. Hodge [ed.], Handbook of American Indians north of Mexico (Bur. Amer. Ethnol., Bull. 30, Washington, 1907) pt. 1, p. 156, cut, and text, p. 157; H. Ling Roth, The aborigines of Tasmania, London, 1890, pl. 4, W. J. McGee, The Seri Indians (XVIIth Ann. Rep. Bur. Amer. Ethnol., Washington, 1898), pl. in face p. 217\*; fig. 27, p. 218\*; fig. 28, p. 219\*.

<sup>94</sup> This is the correct transcription of the Sudanese-Arabic word for the *Herminiera elaphrozydon*, variously called in books of travel *ambatch*, *ambadj*, *ambatsch*, etc.

<sup>95</sup> A. H. S. Landor, Across widest Africa, London, 1907, vol. 1, pl. in face p. 292.

example is here shown in text fig. A. Such vessels are swift, though ticklish; they weigh but about forty pounds; and are so light that a single man can carry on his shoulders three such rafts, each of which will support three men.<sup>96</sup>



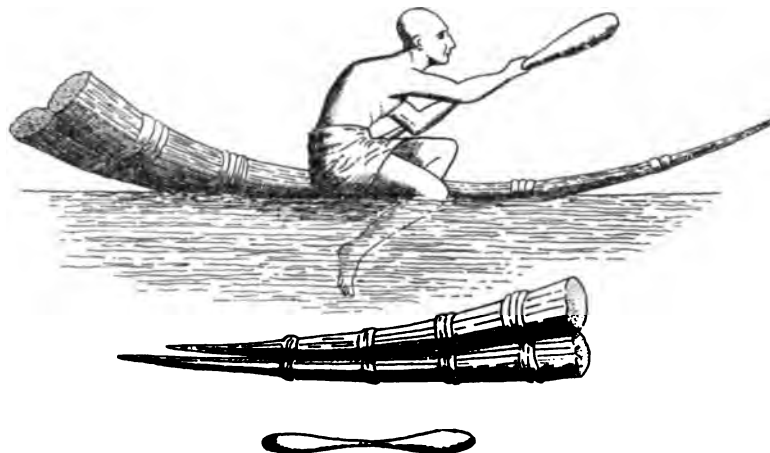
Text fig. A.

Balsas, as well as rafts, are also employed on the Upper Nile; and, as in the case of the rafts, a prototype from which it is easy to trace their development is found in Nubia. The prototype in this instance is seen in certain tapered bundle floats, made of reeds, and generally used in pairs. Only a century ago such floats were employed even as far north as Upper Egypt, where they were observed by the French artist and traveler Denon, from whose work the sketch in text fig. B is copied. The character of the float is plain from the drawing, where the little double paddle — the “*courte et double rame*” which, together with the legs of the navigator, served to propel the float — is also shown. On these craft, Denon avers, the peasants could paddle about for two or three hours, after which time the reeds became water-logged and lost their buoyancy.<sup>97</sup> In Upper Egypt

<sup>96</sup> “From a few dozen shoots of ambatch of about three years’ growth,” writes Schweinfurth, “a canoe of this kind can be easily produced; at about six feet high the stem goes rapidly off to a point, so that a bundle of them need only to be tied together at the extremities, and there is at once attained a curve that would grace a gondola . . . . When the Shillook has come to the end of his voyage, he seizes his gondola like an ancient warrior might [*sic*] his shield. He carries it, partly to assure its safety and partly to allow it to dry, because the ambatch wood easily imbibes moisture and becomes saturated”: G. Schweinfurth, *The heart of Africa*, trans. E. E. Frewer, New York, 1874, vol. 1, p. 77; cf. W. Junker, *Travels in Africa*, p. 215; F. Ratzel, *Völkerkunde*, Leipzig, 1885, vol. 1, p. 192. Ambaj rafts almost identical with those of the Upper Nile are found on the south shores of Lake Chad; G. Nachtigal, *Sahāra und Sūdān*, Berlin, 1881, vol. 3, p. 754.

<sup>97</sup> V. Denon, *Voyage dans la Basse et la Haute Égypte*, vol. 2, p. 72. Cf. J. H. Breasted, *Development of religion and thought in ancient Egypt*, New York, 1912, p. 108 and n. 2; cf. *Ibid.*, p. 158.

these craft are now either unknown or very rare, but they — or very similar types — still survive in Nubia, and are in use elsewhere in Africa, as among the Katoko on the Shari. There, writes a recent traveler, "the fishermen sit astride bundles of maria, a very light, pith-like wood, in midstream holding downwards in the water large circular nets, the shafts of which are about 20 ft. in length . . . It is strange", he concludes, "to see the silent men, apparently unsupported by outside agency or their own efforts, riding down the stream."<sup>98</sup> The steps by which, from bundle floats made each of a single fascine, those of the kind recorded by Denon could be evolved, are obviously few and easily taken. It is equally easy to follow the development further, and to see how such floats came to be elongated, thus adding greatly to the buoyancy and the stability. One more step — that of binding permanently together three, instead of two, cigar-shaped bundles of reeds — and the balsa, as found today on the Upper Nile and in ancient Egypt, is evolved.



Text fig. B.

A survey of the Egyptian monumental evidence, shows us the raft and the balsa in their fully developed stages, but affords us less insight into their respective origins than does the modern ethnographic material. Swimming floats like the fan-shaped ones of modern Dongola are not represented in aquatic scenes, nor are men portrayed drifting about on bundle floats of the Katoko type. Although a swimming float like a life buoy was, as will appear at the end of this section, employed by the marsh men, it is of a sort wholly different from those just mentioned; but a reminiscence of a type comparable to that of modern Dongola seems to have been preserved in the hieroglyph **A**, the word sign for *db*³, "to block up", "to adorn", "to exchange".

<sup>98</sup> B. Alexander, *From the Niger to the Nile*, London, 1907, vol. 2, p. 120, and illustration on p. 122. Precarious as this sounds, even ruder aids to navigation — if the word may be used in this connection — are found among other peoples; cf. S. Powers, *Tribes of California* (Contrib. to N. Amer. Ethnol., vol. 3, Washington, 1877), p. 376.

From the meaning of the word  $\underline{db}\bar{\epsilon}$ , a distinguished Egyptologist has suggested that the sign itself "may possibly represent a straw cap used in stoppering and sealing wine jars".<sup>99</sup> It is, however, very difficult to see how, if the object were really a stopper, it could have been applied. Elsewhere the same writer would relate the sign to "the floats or tassels (?) attached to the harpoon in a scene of hunting the hippopotamus in the tomb of Mera".<sup>100</sup> I have not, unhappily, any adequate publication of the tomb of Mera at hand, but must confess that I find it as difficult to conceive of the sign as a harpoon float as I do to regard it as a stopper. V-shaped floats are shown attached to the ends of the retrieving lines in a Middle Kingdom representation of a hippopotamus hunt, but they bear only the most superficial resemblance to the  $\underline{db}\bar{\epsilon}$  sign. That the latter might represent a tassel is a conjecture which seems to me even less probable than that it might depict a harpoon float.

A carefully executed example of this puzzling glyph shows that the object which it is intended to portray consisted of two bundles of reeds tied together at the top, and spreading downwards like an inverted V; near their lower ends the two bundles were connected by a doubled (?) cord.<sup>101</sup> In the Old Kingdom several variants of the glyph appear,<sup>102</sup> but essentially they conform to the type seen in the XVIII Dynasty example. In the light of what has just been said with regard to modern swimming floats, it seems not impossible that the sign may represent an early form of the Dongola type. If this were the case, the manner in which the float was adjusted for use is perfectly clear—the part where the bundles are tied together was pointed forward, and the line connecting their other ends lay under the belly of the swimmer, or may even, if the cord was in reality a doubled one, have been passed around the waist. A conveyance derived from such a support would develop by natural steps into a balsa, and would explain why, in the Pyramid texts craft of some such sort are referred to as "two shnwy" (in the dual).<sup>103</sup>

Without devoting more time to the question of the evolution of the Egyptian papyrus craft, we may now turn to a consideration of the ancient representations of them. It is a disputed point as to whether or not we may be said to possess, in the small pottery model boats of the predynastic period (figs. 13, 15–18), representations of prehistoric papyrus canoes. The negative answer to this question is supported by G. A. Reisner, who in his catalogue of the model vessels in the Cairo Museum has touched briefly on this topic. Reisner objects that "the clay models are usually hollow, with flat-sided ends, while the

<sup>99</sup> Griffith, *Hieroglyphs*, p. 47.

<sup>100</sup> Idem, *op. Davies*, Ptahhetep and Akhethetep, pt. 1, p. 37.

<sup>101</sup> Idem, *Hieroglyphs*, pl. 3, fig. 23.

<sup>102</sup> Davies, *op. cit.*, pl. 17, fig. 391 shows one such variant.

<sup>103</sup> Breasted, *op. cit.*, p. 108, n. 2.

papyrus rafts [by this term he comprehends all the Egyptian reed boats] are solid bundles of reeds with round ends".<sup>104</sup> This statement is substantially correct, though it might be slightly modified by noting that in some cases the projecting parts (bow and stern) of the models are somewhat rounded in cross-section (cf. fig. 17). Readily as one agrees with Reisner on this point, the next he advances cannot be accepted. He remarks that papyrus craft "could hardly have been used"<sup>105</sup> for river navigation on account of their frailness. Such an inference will not convince those who are familiar with the use made of the balsa by the Seri Indians in the Gulf of California. The Seri reed canoe is practically identical with many of those represented in ancient Egypt, except that in most cases the latter are seen to be reinforced with bindings of stout rope, wooden gunwales, and even wooden floor boards. Without any of these advantages, and often too without any more effective means of propulsion than their bare hands, the Seri intrepidly navigate the troubled waters of the Gulf. "Carrying twice its weight" the balsa "breasts gales and rides breakers and stems tiderips that would crush a canoe, swamp a skiff, or capsize a yawl; while if caught in currents or surf and cast ashore it is seldom wrecked, but drops lightly on beach or rocks, to be pushed uninjured . . . beyond the reach of pounding rollers, even if it is not at once caught up by its passengers and carried to complete safety. The strength of the craft is amazing, especially in view of the slenderness of the cords used in construction."<sup>106</sup> As the force of Reisner's objection, however, really lies not in his erroneous estimate of the seaworthiness of the balsa, but in the constructional peculiarities which the models exhibit, I am inclined to admit the general soundness of his views when he concludes by saying that "the river boat of the predynastic period must have been of a different structure [from that of the papyrus craft] — hide boats with wooden frame, log canoes, or wooden boats, all of which were within the technical powers of predynastic Egyptians. . . . It seems to me improbable", he ends, "that the early clay boats are models of papyrus rafts."<sup>107</sup>

That log dugouts were used in late predynastic times seems very probable: the ivory model here reproduced in figs. 19, 20 can hardly be intended to represent any other sort of craft, and their existence in the Old Kingdom is indisputable.<sup>108</sup> These pirogues do not,

<sup>104</sup> G. A. Reisner, *Models of ships and boats* (Cat. gén. des antiq. égypt. du Mus. du Caire, Cairo, 1913), p. xviii.

<sup>105</sup> Ibid., loc. cit.

<sup>106</sup> W. J. McGee, op. cit., p. 218\*. McGee was not only a very careful recorder, but one who had practical experience of Seri navigation.

<sup>107</sup> Reisner, loc. cit.

<sup>108</sup> One of these dugouts, or a planked boat modeled on the dugout type, is seen in fig. 172. For the making of such pirogues see Davies, *Deir el Gebrāwi*, pt. 1, pl. 15, 16, top (tomb of Aba). The tomb of Rahotep, at Meydum, contains a scene in which men are shown at work with adz and chisel on a pirogue, which is also being bound with papyrus ropes like a balsa — a condensation or summary which produces a very puzzling effect; W. M. F. Petrie, *Medum*, London, 1892, pl. 11.

however, resemble in their form any of the pottery models cited by Reisner. The existence in prehistoric times of planked boats is perfectly credible, but not proved: certainly the pottery models do not appear to represent such vessels — if they do, the transverse lines painted on the outside of the hulls are inexplicable. Of Reisner's three suggestions there thus remains only that which would interpret the models as representations of hide boats with wooden frames. Despite the total absence of such boats in historic Egypt, and with the reservation that the pottery models may imitate vessels of several different kinds, I incline to regard this last explanation as at least possible. For in general the models, in their sections, their painted decoration, and most especially in the forms of their bows and sterns, strikingly recall the skin boats of some modern primitives.

This does not, of course, justify an inference that the reed raft and the balsa were unknown in the predynastic age: the strong influence which the papyrus canoe has exerted on the majority of the Old Kingdom boats is too plain to allow such a supposition to be entertained for a moment. The variety of design exhibited by the earliest Egyptian balsas with which we are acquainted affords further evidence, were any needed, attesting the early origin of papyrus craft.

The different types of raft are to be seen in the illustrations here reproduced. Fig. 137 shows an Old Kingdom raft almost identical in form with the Shilluk example given in text fig. A. As I have intimated in the preceding section of this paper, rafts of this sort appear, though in a very conventional manner, in some of the bronze representations of the sacred mormyrids: this at least seems a more rational interpretation, because of the subject, than the current one which would regard the metal strips, upturned at one end, as sledges (figs. 252, 253). Fig. 122 shows a raft which we may regard as slightly more advanced in type than that depicted in fig. 137, for the prow has been given a hollow curve. In the example shown in fig. 130 the bow curves in the opposite direction, while in the large Middle Kingdom raft pictured in fig. 29, the bow has been still farther drawn back. The rafts are seen to have been bound with double cords passed around them at regular intervals (figs. 122, 127), and they were apparently especially strengthened in this manner where the bow began to be shaped (cf. fig. 29, where the only lashings shown are near the lift of the prow). Like the canoes, they were sometimes reinforced with rope or wood along the gunwales, if one may here so call the upper edges of the body (fig. 122).

Seats were sometimes used on the rafts, as on the smaller canoes. These articles were made of reeds or wicker, and were often edged with a rope or a withy (figs. 23-27, 122, 126, 231, 244).<sup>109</sup> Whether or not the seats were permanently affixed to the boats on which

<sup>109</sup> An example more elaborate than any here reproduced may be seen in von Bissing, *Gem-ni-kai*, vol. 1, pl. 4, fig. 2. The back of this example is low, and stiffened with vertical or slanting canes; the seat, which is long, is made of reeds laid horizontally and bound at regular intervals with cords. These reed seats appear to have served as the origin for the hieroglyph *skr*; cf. W. Spiegelberg, 'Varia. LXVI.—Das Wortzeichen von SKR' (*Rec. trav.*, vol. 26, fasc. 1, 1904, p. 48-49).

they are seen is uncertain: it is, however, clear that movable seats were used by the fishermen and fowlers, since they often appear, either empty or occupied, on shore near their camps (text fig. C, figs. 24, 27, 231, 244). In shape the seats vary — some are low, while others are fairly high-backed, like arm chairs without feet (cf. figs. 24, 25, 27 with figs. 23, 26, 126); and whereas the backs are in most cases vertical (e. g., fig. 24), they are occasionally represented as raking backwards (e. g., fig. 127). That seen in fig. 130 is of unusual form, being more in the nature of a movable cushion or bolster than a seat. It is preëminently in the Old Kingdom scenes that chairs or seats such as these occur: in later times they either died out or — what is more probable — ceased to be represented.

As is to be expected, the rafts varied in size. Some were so small as to be unsuitable for more than one passenger (fig. 122); others carried two (fig. 130) or more. They were propelled, like the ambaj rafts of the White Nile, either by punting poles or by paddles.<sup>110</sup>

All the papyrus craft which can at a glance be classed as rafts are, like those just cited, characterized by having only one end clear of the water: the balsas are regularly finished in this fashion at both bow and stern. We see, however, depicted on the monuments some double-ended craft with regard to which there might at first be some room for doubt as to whether they ought to be reckoned as rafts or canoes. In general, vessels of this sort are fairly long, and are flat bottomed; they sit low on the water, have hardly any overhang, and show a bow and stern at most only slightly differentiated one from the other (figs. 28, 33, and perhaps 130, top, left, and 171). The ends of these vessels are usually snubbed up in a fashion which recalls the bow of such Middle Kingdom rafts as that shown in fig. 29 (cf. figs. 30, 31): they never have the long curved prows and sterns of the typical balsa. An exceptional type of end sometimes occurs (fig. 46), as does even a slight differentiation between bow and stern (fig. 75).<sup>111</sup> All these vessels are double ended rafts — a type in which the simple one man rig has been lengthened to carry a larger crew, and given an up-curved bow and stern like the balsa. From the latter these long rafts do nevertheless differ essentially in that they are flat bottomed. The long rafts are common in the representations of the Middle and New Kingdoms: before those periods they are appreciably rarer, though it is in the Old Kingdom that the one man rigs are most frequently figured. When, in the Old Kingdom, the long rafts are depicted, they are usually of the type here shown in figs. 75 or 173. In the latter case the raft, with ends upturned in like manner at bow and stern, has a long flat sheer, and enough carrying power

<sup>110</sup> Davies, *loc. cit.*, where of two rafts like that here shown in fig. 130, one is being punted, the other paddled.

<sup>111</sup> With this type may be compared a Middle Kingdom example in Newberry, *Beni Hasan*, pt. 2, pl. 4, bottom — a long raft carrying a crew of four, and having a bow like that here shown in fig. 137, and a stern turned up at the same angle, but of much less length.



to allow a crew of seven men, standing on the deck, to manipulate a heavy seine. In their structure, these long rafts are like the one man rigs and the canoes.<sup>112</sup>

The true papyrus canoes or balsas exhibit a peculiarity of design, by which they are in most cases easily distinguished from the rafts. They are always represented as having slightly rockered bottoms, and — with hardly an exception — both prow and stern are lifted well clear of the water in a manner which gives a long overhang fore and aft. The perfect type, as developed in the Old Kingdom, is seen in fig. 22. In most cases the stern is more elevated than the bow — a difference which may have originated in a desire to put the steersman in a place from which he could get a clear view ahead (figs. 22, 23, 35-38, 40, 44, 128). The commonness of this type of canoe is attested not only by the frequency with which it appears in the tomb paintings, but by its employment as a hieroglyph as well (fig. 14 — the rounded object lying on the canoe is probably a fish net). Canoes in which bow and stern are equally elevated above the water, though not necessarily of equal length, are shown in figs. 82, 124, 126, and 147 (raft?).

The balsas were apparently very narrow at the extremities, as is the case with their modern cognates. This is brought out by the postures of the men: for whereas a paddler often rests more comfortably on two knees than on one (cf. fig. 21), the narrow beam of the fore and after parts of the Egyptian balsas only allowed room for a man at the end of the craft to rest his weight on one knee (cf. figs. 126, 130, 131).<sup>113</sup>

The canoes are usually bound at regular intervals throughout their length with papyrus cords passed around the hull twice (figs. 40, 42, 230), or three times (figs. 22, 30, 36),<sup>114</sup> or alternately twice and thrice (fig. 38). Near the ends five or more lashings were often passed to give greater strength and rigidity to these exposed parts of the vessel (fig. 42 — the bow). The lashings were tied with square knots on the upper side of the balsa — I suspect, along the gunwales. In most cases the knots were concealed when the canoe was finished, or else they have been left unrepresented by the Egyptian artists. What seems to have been intended to represent a binder of leather or textile is occasionally shown on the canoes in the tomb paintings (fig. 32; cf. the strip on which the eye is painted in fig. 35, and the corresponding, but undecorated, strip at the stern).

Some papyrus canoes of the Middle Kingdom appear to be exceptional in their construction, in that the reeds of which they are made are not lashed round with a finishing

<sup>112</sup> The curious double ended craft shown in fig. 21 may perhaps represent a raft. If the representations in Lepsius and in Rosellini, which I have followed, are correct, it can only be said of this vessel that it is either very badly drawn by the Egyptian artist, or that it represents an unusual and eccentric form. Cf. the Middle Kingdom raft shown in fig. 147.

<sup>113</sup> Such instances are common: Newberry, Beni Hassan, pt. 1, pl. 34, bottom, for an additional example. Once in a while a man at the extremity of a canoe is represented as on both knees — cf. fig. 230.

<sup>114</sup> More than three turns at a time are sometimes seen, e. g., in the Middle Kingdom example given by Newberry, op. cit., pt. 2, pl. 29.

binding at the bow and at the stern, but are doubled over in a "hairpin" bend. This results in a form (fig. 128) which strongly resembles that of a protodynastic clay model found at Abydos. The model, however, has broad transverse stripes painted on its deck, which may perhaps be intended to represent the thwarts of a wooden boat.<sup>115</sup>

Rope gunwales are often seen on the balsas as in the rafts. They are sometimes visible along the whole length of the canoe, from stem to stern (fig. 22, 38); more often they end, or at least disappear, at some distance from the ends of the gunwale line (fig. 23). It is obvious that these ropes aided in stiffening the balsa, but in exactly what manner they did so cannot be determined. In many instances they were replaced by gunwales made of long strips of wood (figs. 35, 36, 44). Such wooden strips often run nearly the whole length from stem to stern (fig. 127), and in a few cases they quite do so (fig. 126; cf. the raft, fig. 75). More commonly they run only a little fore and aft of the underwater body of the canoe (fig. 82). From the representations there is generally nothing to show what kept these gunwales — whether of rope or of wood — in place: although it may be obvious that their ends were in some way secured inside the papyrus bundles of which the craft was made, there is in most cases no sign of their being tied down, as they must have been, throughout their length. This is not always the case, for in some instances the transverse lashings are shown passed over the gunwales (fig. 36, 147 raft?), or even as being passed over and under the wooden strip (fig. 44 — last two knotted lashings on the left; fig. 147 — ends of gunwale-piece). In fig. 42 is shown the bow of a large Middle Kingdom canoe in which the lashing is shown with some detail (cf. fig. 43, from stern of same canoe). Despite the clearness with which the general nature of the structure is in this case indicated, the data from which the technique could be accurately determined are lacking. The gunwale appears to be lashed to the reeds at its end, and at a point just below the damaged portion of the representation. These lashings are comparable to the somewhat more elaborate ones on the ends of the gunwale strip of the canoe seen in fig. 35. In this case the strip appears to be overlaid by another thin strip or by a rope.

Occasionally one finds balsas — especially those on which the nobles are represented fowling or fish spearing in the papyrus swamps, and which, therefore, we may safely regard as of the best workmanship — fitted with a wooden deck (fig. 35).<sup>116</sup> Such a feature was a very desirable one: it not only gave the occupants of the balsa a firm footing, but protected them from the water which inevitably seeps up through the bottom of all reed craft.

<sup>115</sup> Petrie, Abydos, pt. 2, pl. 11, fig. 241.

<sup>116</sup> Other examples: Petrie, Deshashah, pl. 22; 24 (O. K.); Davies, Deir el Gebrāwi, pt. 2, pl. 3 (O. K.). The large balsa represented in Idem, Sheikh Saïd, pl. 11, where the heads and shoulders of a crew of nine (18?) boatmen are seen beneath the floor-board and the gunwale, is to be regarded merely as an eccentric freak of the artist. Davies, *op. cit.*, p. 23 and n. 1, has needlessly tried to advance a rational explanation of the scene.

The use of these floor boards at once suggests the planks which Strabo mentions in connection with the *paētōn* which ferried him over to Philae.

The example of the *balsa* fitted with a floor plank given in fig. 35 is from a Middle Kingdom original, and shows the heights to which the building of reed canoes attained in Egypt. The grace of the curves, which was fully appreciated by the artist of the Old Kingdom,<sup>117</sup> is here very marked: one has a feeling of perfect balance, and sees how the comparatively short length of the underwater body, and the long overhang aft, against which the stern man could lever his punting pole or his paddle, contributed to make the craft quick to turn and easy to manage. In this finished type, also, one sees the model to which so many wooden boats approached in design — approached, indeed, so closely, that one is often in some doubt as to whether a given representation depicts a wooden or a papyrus original. The divine *wḏꜣ-t* eye, seen on the bow of this example, as in so many others, was, as has been intimated, probably painted on a strip of canvas or leather. Its purpose was of course a magical one, as in the case of those painted on ancient and modern Mediterranean ships, and on Chinese sampans. The appropriateness of the position of this decoration is emphasized by a Chinaman's explanation, thus delivered in Pidgin English: "Him no got eye, no can see; no can see, no can savvy; no can savvy, no can do!"

In the manipulation of the papyrus canoes, as in that of the rafts, both paddles and punting poles were employed, the latter being in far greater favor than the former. The poles were apparently 3 or 4 meters long, and were forked at the bottom (fig. 23, 33, 34). The crotch was useful both in fending off, and in poling over soft bottom: it is therefore not surprising to find that its employment was general among the boatmen. That seats are sometimes seen on the canoes I have already remarked (figs. 23, 25).

The building of canoes was a stock theme of the Egyptian artist: one sees the papyrus being gathered in the swamps and carried away in bundles (fig. 37);<sup>118</sup> the twisting of the cords (fig. 37 — youth seated under stern?, 39, 227);<sup>119</sup> the binding of the canoes (fig. 37, 38, 40, 44); and the final process, when, as in the manufacture of the modern *Seri* balsas, the builders, by the aid of a chisel-shaped tool and a stone for pounding, drove in the ends of the papyrus stalks wherever they stuck out, so giving the craft a neat finish, which

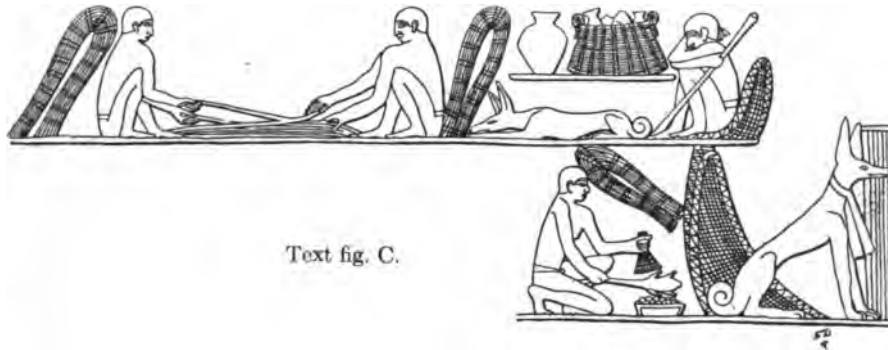
<sup>117</sup> The beauty of the papyrus boats was thoroughly appreciated in the Old Kingdom, when wicker trays in the shapes of balsas appear — appropriately laden, in most cases, with marsh products — in the offering scenes; e. g. Steindorff, *op. cit.*, pl. 62; 64. Other types of boats were similarly copied; cf. *Ibid.*, pl. 54, bottom.

<sup>118</sup> Cf. Blackman, *Meir*, pt. 2, pl. 3; Paget and Pirie, *Ptah-hetep*, pl. 33.

<sup>119</sup> The process of twisting papyrus in fig. 39 is essentially like that used for leather ropes; cf. P. E. Newberry, *The life of Rekhmara, etc.*, Westminster, 1900, pl. 18 top, left; Champollion, *Monuments*, vol. 2, pl. 164, fig. 4 (= Rosellini, *Monum. civ.*, vol. 2, pl. 45, fig. 11, where the same scene is differently colored); E. Mackay, 'Note on a new tomb (No. 260) at Drah Abu 'l Naga, Thebes' (*Journ. Egypt. Arch.*, vol. 3, pt. 2, Apr., 1916, p. 125 sq. and pl. 15). In figs. 37-39 note the coils of rope ready for use.

also added to its durability (fig. 41). The stocks on which the boat was laid down, and on the proportions of which her shape must to some extent have depended, were either simple stones (fig. 40, left), or props of wood (figs. 41, 41) or papyrus (fig. 38).<sup>120</sup>

Earlier in this section, I observed that the Egyptians were acquainted with a swimming float or life buoy of which mention would later be made. In the equipment of the marsh men there sometimes appears a cylindrical object, bent double so as to form a closed



Text fig. C.

loop. Sometimes these objects are seen, with other gear, such as movable seats, baskets, etc., lying on the ground (text fig. C; figs. 231, 244); sometimes, a herdsman carries one over his shoulder on a stick (text fig. D); or, yet again, one is shown looped over the left shoulder of a naked or scantily clad peasant (figs. 230, 232, 243). At regular intervals



Text fig. D.

these cylinders are bound around with cords (text fig. C; figs. 230, 232, 244), and when worn the ends are seen to be tied together (figs. 230, 243 — in fig. 232 the cylinder is merely slung over the shoulder without having the ends tied; cf. figs. 231, 244, where the ends seem to be tied so as to close the loop). From the general character of this article its nature and use are, I believe, certain: it is a bolster of papyrus worn by the marsh men as a swimming float. Such an interpretation at once explains and puts in a new light the resemblance between these loops and the hieroglyphic sign  $\text{Q}$ ,  $s\bar{s}$ , "protection," etc. The resemblance is unquestionable<sup>121</sup>: in fig. 247 is an Old Kingdom example of the  $\text{Q}$  glyph, in which the bindings of the loop are clearly marked, and in fig. 245, in which the sign is reproduced as an amulet, the lines both of the papyrus bolster, as well as the transverse

<sup>120</sup> Cf. Davies, *Sheikh Saïd*, p. 24 (describing the scene reproduced in *Ibid.*, pl. 12). The end of a canoe, during a critical moment of the binding, might even be supported on the back of one of the builders; Petrie, *Medum*, pl. 22.

<sup>121</sup> L. Borchardt, 'Drei Hieroglyphenzeichen' (*Zeit. f. Ägypt. Sprache*, vol. 44, pt. 1, 1907, p. 77-79) tried to explain the resemblance of the sign to the papyrus roll on the grounds that the latter was a mat "welche die Hirten auf dem Felde gegen den Wind als Rückenschutz aufstellen," and that hence the folded mat was used as a glyph

ones of the binding cords, are plainly shown, though the latter are exaggerated. An older specimen of the amulet, in bronze, is seen in fig. 246. In this case the reeds composing the buoy are well defined, though the bindings are rendered without a similar attention to detail. This likeness between the *s3* amulet, the sign  $\mathfrak{X}$ , and the cylindrical object used by the marsh men, becomes easily explicable on the supposition I have just advanced: viz., that the last named is a swimming float or life buoy. The fact that the reed bolster gave support to the swimmer would even more naturally lead to its having been associated with the ideas of helping and protecting, than the support given by the *wr3* pillow would have led to a similar association of ideas, and a consequent adoption of the pillow as an amulet. The validity of this explanation is further attested by the fact that, from the XII Dynasty onwards,<sup>122</sup> the amulet is the constant attribute of a goddess of a character unmistakably aquatic: I refer to Thouëris.<sup>123</sup> Not only with this divinity, who under the form of a gravid hippopotamus with human breasts and a crocodile's head and back (fig. 250) embodies the very essence of Nile plenty, but with her variants and cognates, the sign is almost inalienably associated. Thus, it is seen as an emblem of Hekent,<sup>124</sup> of Seped,<sup>125</sup> of Shumher,<sup>126</sup> of Rert,<sup>127</sup> and of a form of Apet.<sup>128</sup> The later representations of the *s3* sign as an attribute often, as would naturally be expected, differ considerably from the earlier forms of the symbol; but they are always easily recognizable, and usually betray some trace which, in a manner direct and simple, connects them with the life buoy of the marsh men (cf. figs. 248-250).

§ 5. **The harpoon.** It is necessary to begin this section with a definition of the word "harpoon," for it is in this paper employed in a more restricted sense than that usually prevalent among Egyptologists. The latter, for the most part, use the word in a comprehensive way to designate a barbed hunting or fishing spear of any sort: it is here

denoting "protection," etc. To support this view Borchardt declared that the rush seats of text fig. C were but the doubled rolls of the same illustration and of text fig. D, unfolded. But, as the reader will see for himself on comparing the seats and the rolls, the former could not possibly be given the form of the latter. This difficulty has escaped the attention of two careful archeologists; A. C. Mace and H. E. Winlock, *The tomb of Senebtisi at Lisht*, New York, 1916, p. 61.

<sup>122</sup> [E. A. W. Budge] *British Museum. A guide to the third and fourth Egyptian rooms*, [London], 1904, p. 33. Crystal figure of Taûrt holding *s3*, emblem (B. M. no. 24,395). Cf. the figures of Thouëris with the *s3*, on the Middle Kingdom magical wands; F. Legge, 'The magic ivories of the Middle Empire' (*Proc. Soc. Bib. Arch.*, vol. 27 pt. 2, May, 1905), pl. 3, fig. 3, obv. and rev. (= *Brit. Mus.* 18,175); pl. 9, fig. 16 (= *Cairo* 9,437); pl. 15, fig. 34. (= *Brit. Mus.* 38,190); pl. 17, fig. 41 (= *Berlin* 6,714); cf. pl. 5, fig. 6 (= *Cairo* 9,435) and pl. 6, fig. 9 (*Louvre*).

<sup>123</sup> For this divinity see Lanzzone, *op. cit.*, vol. 5, pt. 2, p. 1230-1233, pl. 393; 394, fig. 1; 3 (= fig. 250 here reproduced); 4.

<sup>124</sup> *Ibid.*, vol. 5, pt. 1, p. 855-857.

<sup>125</sup> *Ibid.*, vol. 5, pt. 2, p. 1056-1057.

<sup>126</sup> *Ibid.*, vol. 5, pt. 2, p. 1170.

<sup>127</sup> *Ibid.*, vol. 4, p. 478-479, pl. 190, fig. 3.

<sup>128</sup> *Ibid.*, vol. 1, p. 21-23, pl. 9, right.

applied only to that type of spear which has a head so socketed as to come free from the shaft when the quarry has been struck, the animal being thereafter retrieved by means of a line made fast to the head itself.

It might at first be thought that the obscurity of the silt-laden waters of the Nile would render the harpoon well nigh useless to the fisherman. It is true that at most times of the year the Nile is too muddy for one to see more than 30–40 cm. below its surface, though in the still waters of the Delta one may occasionally see to a depth of some 2 m.<sup>129</sup> These conditions do not, however, forbid the use of the harpoon: fish may be driven<sup>130</sup> into small bays and culs-de-sac where they will be herded so thickly that they may be readily struck, and the primitive fisherman is often even content to jab about at random in the shallows on the chance of hitting a fish which lies quite concealed from his view by the muddy waters.<sup>131</sup>

Harpoons of bone, horn, and ivory are of common occurrence in predynastic graves.<sup>132</sup> It is a tolerably safe assumption that in addition to the three materials just named, wood too was frequently employed for harpoons from the prehistoric age onwards,<sup>133</sup> though no actual specimens in this perishable material have survived from predynastic times. It is moreover possible that harpoon heads of chipped flint (fig. 48) were used by the predynastic people, though there is nothing to prove that the stone points which have been cited in this connection were not set solidly in their shafts as spear heads, instead of having been hafted in a movable socket, or foreshaft, to which a retrieving line could have been bent. A little before the beginning of the historic age, harpoons of copper became common; but it is a remarkable fact that on the Egyptian sites belonging to times later than the I Dynasty comparatively few harpoons — or, I may add, spears — have been found by excavators. This absence can hardly be accounted for solely on the grounds that copper was one of the desirable prizes of the ancient or medieval tomb robber, for copper celts, chisels, fishhooks, etc. are not infrequently found: the explanation probably lies in the increasing employment of the hook and line and of the net in fishing, and the consequent decline of the use of the harpoon.

<sup>129</sup> J. de Morgan, *op. cit.* [2], p. 85.

<sup>130</sup> Cf. the tactics employed at a Shilluk "fishing-party" described by Loat, *op. cit.*, p. xlvii sq.

<sup>131</sup> Thus, among the Shilluk, the fisherman often walks along among the reeds "thrusting in here and there on the chance of striking something" with his fish-spear; Loat, *op. cit.*, p. xlvii. An English officer thus describes the methods pursued by the Dinka at Renk, on the White Nile: "A group of naked men and boys were fishing, wading in water about knee deep, and hurling their primitive spears, seemingly at random and with very limited success, into water so muddy that no fish could have been seen"; H. H. Austin, *Among swamps and giants in Equatorial Africa*, London, 1902, p. 5 sq. Among the Kish (Kych) on the Bahr el-Gebel "the spearing of fish is mere hazard, as they cast the harpoon at random among the reeds; thus, out of three or four hundred casts, they may, by good luck, strike a fish"; S. W. Baker, *The Albert N'yanza*, etc., London, 1866, vol. 1, 69–70.

<sup>132</sup> Petrie, *Naqada*, p. 46; cf. *Idem*, *Diospolis Parva*, p. 22.

<sup>133</sup> Cf. J. de Morgan, *op. cit.* [2], p. 87.

The simplest type of predynastic harpoon is that seen in the specimen here reproduced in fig. 55. The original may be described as a piece of horn 17 cm. long, having an irregular cross section, which at the butt end (tang) is roughly lozenge-shaped. The point is rather blunt, but well designed with a view to having adequate piercing power combined with strength; the tang is worked down to a size small enough to allow it to be conveniently inserted in a bone, ivory, or wooden slot set for its reception at the extremity of the harpoon shaft. Near the tang is a spur which prevented the harpoon head from jamming in its socket when the quarry was struck. A slight groove on that side of the spur which is nearer the point of the weapon marks the place where a line was attached. The smallness of the groove in this and other cases forbids the supposition that the cuts served to hold the retrieving lines themselves: the latter must in most cases have been stout ropes suitable to the large size of the heads. Whereas we may suppose that the retrieving lines were regularly bent on to the shank of the head with a clove hitch or a knot, the groove in the spur probably held a small cord which aided in keeping the head in its socket, and which slipped or parted when the shaft was plucked back after the strike had been made. On the same side of the shank as the spur is worked a strong and deep barb, about 6 cm. from the point. The inside of this barb is flattened, so as to prevent the head from pulling out after having been sunk in the quarry. The short distance between the spur and the end of the tang precludes the head's having been solidly fitted into a foreshaft, and indicates that the complete weapon consisted of only four parts: the shaft in which the head was loosely socketed; the head itself; the retrieving line which was fastened to it; and the small cord which held the head in place until the strike was made. Whether the weapon was of this simplicity or not, there is no mistaking its general character: the head is that of a harpoon in the most restricted sense of the word.



This last remark applies with equal force to the specimens shown in figs. 56-58. The first of these three is of ivory, and measures 11.5 cm. in length. The tang is wedge-shaped, and the spur well defined. The groove for the small cord is here seen in the same relative position as before, and the point, though sharper at the end, is of the same general character. The chief difference between the two specimens lies in the fact that that shown in fig. 56 has two barbs instead of one — barbs which are placed unilaterally with the spur, and of a type somewhat more pronounced than that seen in the foregoing specimen.

Fig. 57 shows an ivory harpoon, 11.5 cm. long, very similar to that depicted in fig. 56, but round in cross section, and less carefully made. Fig 58 represents a horn specimen, originally over 16.5 cm. long, now badly weathered, and broken at the butt end. The point of this last example is a little more attenuated than those of the others.

Fig. 53, 54 — both of ivory — are of unusual form, as they are bilaterally barbed. The second of these two (6.5 cm. long) has a short tang, and a pair of opposed spurs, each notched for the tying cord. Here again, we may suppose, the retrieving line was bent

round the shank. Between the spurs and the barbs the shank is roughened and discolored. Two similar zones, roughened and discolored, are seen on the blade of the specimen. The head pictured in fig. 53 is eccentric. It measures at present 8.3 cm. in length, has a short tang, circular in cross section, and carries on one side a short spur, on the inside of which is seen the usual groove. On the left side are two deep and sinuous barbs: between this pair, on the opposite side of the head, is placed a third. The point is broken.

The bone specimen shown in fig. 49 belongs to a period somewhat later than that to which the above mentioned examples are to be ascribed, and is of Nubian origin. It may, perhaps, be a spear head: but the slight thickening of the shank between the single barb and the butt end incline me to regard it as a harpoon head. The thickening or entasis of the shank would have prevented the head from jamming in its socket, and the retrieving line from slipping over the butt end.

The barbed forms just discussed were imitated in copper at the very close of the predynastic period and during the first two dynasties<sup>134</sup> (fig. 68-70). The sections of these copper derivatives are almost invariably square, rectangular, or flat-oval (fig. 69-70) instead of round or lozenge-shaped, but they otherwise follow closely the original patterns. The tang remains as short as ever, the heads are unilaterally two-barbed, and the spur is always present, though in the modified form of the double-notched flange seen in the illustrations. Some of these copper harpoons run a little smaller in size than their bone, horn, or ivory prototypes: the three examples from Abydos given in figs. 68-70 measure in length 6, 8.4, and 10.4 cm. respectively. Other specimens, however, are much larger. Sheet copper models of such harpoons were used as offerings in the protodynastic period (fig. 74) — numerous examples were found in the tomb of the I Dynasty king Khasekhemui. The memory of this form of harpoon, moreover, was perpetuated to late times by the hieroglyph  (figs. 62, 63, cf. fig. 64 — all here inverted for purposes of comparison), which in Middle Kingdom times is sometimes joined with the retrieving line. The sign  is used as the determinative of "bone" and "ivory", and, by a very unusual extension, of many kinds of bone-like materials and things, and of matters connected with the disposal of the dead. Phonetically the sign is read *kš* (*kršʔ*) "bone". It therefore represents, as these meanings and the colors (white with red outlines) in which it is generally rendered attest, a harpoon head of bone or ivory — an origin which takes up back to the close of the predynastic period.<sup>135</sup>

The copper models just mentioned are not all of one type: another form, here

<sup>134</sup> Petrie, *Royal tombs*, pt. 2, p. 36 — "harpoons, with the second fang, unknown in prehistoric copper, were found under Zer (xxxv. 92 [here = fig. 68]), and Mersekha (xliv. 12 [= fig. 70]), as well as models under Khasekhemui (ix A. 5 [= figs. 73, 74])."

<sup>135</sup> Cf. Griffith, *Hieroglyphs*, p. 52 sq., where this sign is discussed in detail. At the very beginning of dynastic times the harpoon from which it is derived is sometimes seen as a pot-mark; W. M. F. Petrie, *Tarkhan 2*, London, 1914, pl. 20, figs. 15-25.



exemplified by the specimen reproduced in fig. 73, is of fairly common occurrence in the I Dynasty. Surrogates of this class appear to be imitations of predynastic copper harpoons like that from el-Mahasna here shown in fig. 50. These harpoons may in their turn be related to those of which the bone specimen in fig. 49 is an example — the evidence is, however, too slight to warrant the assertion that such was the case. The el-Mahasna specimen just cited is of exceptional interest, in that traces of the wood in which it was socketed were found on the tang, and remains of a cord — either the tie or the retrieving line — also could be seen on the shank.<sup>136</sup>

It is not possible to say definitely from such evidence as we possess, whether the heads just discussed were used exclusively for fishing or, as the size of the larger specimens suggests, for hunting the hippopotamus as well. With regard to the heads now to be considered there is less room for doubt: their general character clearly indicated that they were in most cases primarily intended for the pursuit of large animals, and the only two large beasts which might be taken with the harpoon in ancient Egypt were the hippopotamus and the crocodile. As the chase of the former is a frequent subject of the Egyptian artist of historic times, it is probable that it was for the capture of these animals rather than of crocodiles that the larger of these weapons were designed. The heads in question are well made copper points, here represented by the three examples shown in figs. 51, 52, and 59. As a class, and despite the occurrence of small specimens, harpoons of this sort are large and heavy; a roughened tang, of less diameter than the shank, is often finished at the end with a cap or button like a rivet head;<sup>137</sup> the shank varies in section from triangular to round; there is only one barb; the cross section of the blade is of a lozenge-shape (fig. 59), sometimes modified by the prolongation of the shank in the direction of the point;<sup>138</sup> and the point itself is rounded so as to gash and penetrate a thick hide which might turn or bend a harpoon of the sort shown in figs. 68–70.

With regard to the harpoons shown in figs. 51, 52, 59, a technological question of importance at once arises when one pauses to consider in what manner the heads were mounted. The button at the end of the tang, even when most pronounced, could hardly have served in any way as a stop for a line, but it would effectually have prevented the haft from splitting when the quarry, however tough-skinned, was struck. One of the three specimens figured (fig. 51) showed when found traces of having been set 4 cm. in wood — i. e., about a fifth of its total length of 19.3 cm.<sup>139</sup> This gives us a clue to the


<sup>136</sup> Ayrton and Loat, *El Mahasna*, p. 33.

<sup>137</sup> This peculiarity is not always found: e. g., it is absent in the case of a copper harpoon head belonging to the class under discussion and figured by W. M. F. Petrie et al., *The Labyrinth Gerzeh and Masghuneh*, London, 1912, pl. 4, fig. 5. It is absent, also, in some specimens from Mesa'Id in the Museum of Fine Arts, Boston.

<sup>138</sup> The blade shown in fig. 51 has such a section.

<sup>139</sup> Reisner, *The Arch. Surv. of Nub. Rep. for 1907–1908*. Text, p. 236 (Cem. 40: 14: 4).

hafting. The absence of a spur in this type, and the traces of socketing in wood for a length sufficient to fix the head rigidly in a shaft, might, it is true, at first suggest that weapons of this class were not harpoons at all, but spears. The size and weight of most of the examples show, however, that they were designed for larger game than fish; they are barbed, and were therefore intended to stick fast in the quarry; and the hunter does not aim to plant barbed spears either in the hippopotamus or the crocodile (the two large thick-skinned animals of ancient Egypt), but to secure them by means of the harpoon, to weary them by playing, and to despatch them with lances and axes.

For further light on this question we must turn to the ancient fishing scenes of the historic period, and to the evidence afforded by several well cut examples of the hieroglyph . These latter, when carefully executed (fig. 65, 66) show a copper head (rendered by green), fixed in a wooden foreshaft (red). This foreshaft is whipped at the end into which the head is set, the whipping being passed round the tail of a becket intended to hold the retrieving line (fig. 65). The foreshafts, of course, were intended to be socketed loosely in the shafts: for that reason they were generally worked to a smaller diameter toward the butt (fig. 61, 65 — not so in fig. 66). It was usually a harpoon mounted in this fashion that figured in the standards of the two Harpoon Nomes (the east and the west). The sacred emblem then appears upheld by vertical or slanting<sup>140</sup> supports on a papyrus (?) boat, from the stern of which sometimes depends a curious object which, despite its rope-like appearance, one hesitates to call a painter (fig. 61; cf. the predynastic pot-mark in fig. 60 — harpoon standard on boat). Whereas the copper heads shown affixed in the foreshafts are in Middle Kingdom and later times not infrequently barbed bilaterally, in the Old Kingdom the barb is always single,<sup>141</sup> and of a form which, as far as can be discerned, is identical with that of the heads under discussion (cf. fig. 66 with figs. 51, 52, 59). The harpoons shown in hippopotamus hunting scenes are regularly of this single barbed type (figs. 75–77, 82, 83) until New Kingdom times, when a leaf-shaped form is sometimes found (fig. 78). The method of hafting is not, in any scenes of this class with which I am acquainted, shown in much detail, but the general character of the weapons may in many cases be made out. Thus, the two men in fig. 75 are using single barbed weapons to each of which, at a point not far from the place where the head is socketed, the retrieving line is attached. Allowing for the summary rendering of the scene, these harpoons appear to be like those of which the heads and foreshafts are shown in fig. 61, 66. In the spirited hunting scene partially reproduced in fig. 82 the harpoons are

<sup>140</sup> Cf. A. S. G. Caulefield, *The Temple of the Kings at Abydos (Sety I)*, London, 1902, pl. 18, fig. 7 (west) and fig. 8 (east). For the Harpoon Nomes themselves, see J. de Rougé, *Géographie ancienne de la Basse-Égypte*, Paris, 1891, p. 30 sqq. (west); p. 44 sqq. (east).

<sup>141</sup> Griffith, *Hieroglyphs*, p. 52.

differently rigged. In fig. 83, which shows one of the harpoon heads of fig. 82 on a larger scale, the end of the shaft is seen to be whipped, and the retrieving line passes over, instead of under, the whipping. We must therefore suppose that here, if the representation is correct in this particular, the lines were bent directly on to the heads, and that no fore-shaft was employed. This is not the only difference between these harpoons and those of fig. 75: the retrieving lines in the weapons shown in fig. 82 lie along the shafts nearly to the butts of the latter, being secured at regular intervals by double cords passed round both shaft and line (one such binding is seen in fig. 83). These lashings must have been of the lightest, for when the pole was plucked back after the quarry had been struck, they must have been meant to part so as to allow the line to come free. This has already happened in the scene five times in the case of the larger hippopotamus, and twice in the case of the smaller: each time one of the animals has been struck the head has become imbedded beneath the skin, the retrieving line has been freed from the shaft and held by the hunter, who — either with a fresh harpoon or with his original one reset — has again attacked his quarry. I may remark in passing that here, as often happens elsewhere, the artist has omitted to give the retrieving lines enough length: the hunters must have had more scope than is indicated (cf. the scanty length of line shown in fig. 75, and the total absence of lines for the attendant's harpoons in fig. 76, and for that of the attendant shown in fig. 77).<sup>142</sup> The scene depicted in fig. 82 gives no evidence as to how the lines were managed: in a spirit of economy perfectly justifiable from the aesthetic point of view, but from the ethnographical one regrettable, the artist has obviously given his two harpoon men more than they could do, and so has had to eliminate some minor details. For it is not likely that the man who was hunting in company held a wounded hippopotamus by two or three lanyards in his left hand, while with his right he again launched his weapon. Had the artist been a little less carried away by the liveliness of his theme, he would probably have shown us the beasts being held by men engaged, like the hunter in the stern of the *balsa*, in doing nothing else: while the left hands of the harpoon men would then have carried the slack of their retrieving lines.

As nearly as can be judged, such a manner of handling the line accounts for the coil in the left hand of the principal personage shown in fig. 76, though it should be noted that in this case the pose is that of a man casting a bident rather than that of one driving down a harpoon.

An interesting rig is that shown in a Middle Kingdom scene from which the detail in fig. 79 has been copied. The scene in question is damaged in several critical places, but is none the less of exceptional value. It represents a noble, Antef, accompanied

<sup>142</sup> The lines used in the eastern Sūdān (Atbāra, Rāhad, Dinder, Blue Nile) are about 20 feet (ca. 6 m.) long; S. W. Baker, *The Nile tributaries of Abyssinia*, London, 1867, p. 333.

by his son and an attendant, hunting on a papyrus raft. Antef has sunk three harpoons into the head and neck of an enormous hippopotamus, which roars at him in defiance. An attendant in the bow of the raft endeavors to catch the head of the animal with a noose. The noble holds the beast by three retrieving lines gathered in his left hand, while with his upraised right he is about to drive another point into its body. The head of Antef's harpoon has been erased, but, if we may judge from the weapon which his son holds in readiness behind him, it was bilaterally barbed. Along the whole length of the shaft runs a line, which passes over the U-shaped crotch at the butt end of the pole (fig. 79). Apparently this line travels down the other side of the shaft, for from the lower part of the latter to the left hand, which holds the three retrieving lines, runs a cord which is inexplicable except as that to the other end of which the set head is attached. From the ends of the three engaged retrieving lines hang V- or Y-shaped objects, which are undoubtedly floats, though of what description it is impossible to say.<sup>143</sup> An arrangement comparable to this is that seen in a New Kingdom hippopotamus hunt. Here the shaft, instead of ending at the butt in a U-shaped crotch has a short spur which serves the same purpose (fig. 78).

The bilaterally barbed harpoon is almost unknown before Middle Kingdom times: before that date the † harpoon and the simple types shown in figs. 51, 52, 59, 61, 66, 76, 77, 82, and 83 are the ones most frequently found. This is the more remarkable when one considers that in Europe even paleolithic man of the Magdalenian epoch was well acquainted with harpoons having numerous barbs on each side of the shank. The few bilaterally barbed harpoons of early date are not symmetrical, but of the form shown in text fig. E, and described in the Addendum to this paper. The types which are seen in figs. 65, 81 (= 67 enlarged), and 78, first appear at the beginning of the Middle Kingdom. The harpoon in fig. 67 is especially remarkable in that whereas almost, if not quite, all the actual specimens found in Egypt have a tang which fitted into a socket, in this case, if we are to trust the representation, the head had a hollow socket into which the shaft was set.<sup>144</sup> One would be inclined to regard this peculiar weapon as a spear except for the fact that

<sup>143</sup> I suppose these floats resemble those in the O. K. tomb of Mera, cited by Griffith in connection with the *db3* hieroglyph; see above, n. 94. The M. K. (XI Dynasty) scene above described I know only from the reproduction in Wilkinson, *op. cit.*, vol. 2, fig. 376, p. 128. In *Ibid.*, vol. 2, fig. 377, p. 129, is figured another hippopotamus hunt of the N. K. (detail here shown in fig. 78). In this latter case the hunter, as in the earlier example, holds the retrieving lines in his left hand, and the lines are fitted to floats. These are represented as very small isosceles triangles, a form which, if it be correct, I confess my inability to explain.

<sup>144</sup> It is not impossible that the Middle Kingdom example of the glyph in fig. 64 owes its unusual form to the fact that the artist who cut it was acquainted with a new type of harpoon head which ended in a socket instead of in a tang. Harpoon heads of this description are rare in modern Africa, where the prevailing type is the single barbed form with a tang which is socketed loosely into the end of the pole (e. g. C [K]. J. Andersson, *Lake Ngami; or, explorations and discoveries. . . in . . . South Western Africa*, New York, 1857, p. 417 sqq.; S. W. Baker, *loc. cit.*; *Idem*, *Albert N'Yanza*, vol. 2, p. 97). The hollow shanked harpoon, is however, known; P. Kollmann, *The Victoria Nyanza*, trans. H. A. Nesbit, London, 1899, fig. 341 and p. 201.

from its butt depends a line held by an attendant: how the line was bent on to the head it is impossible to say. The harpoon shown in the hieroglyph given in fig. 65. is fitted into a foreshaft in the early manner. It is not barbed, but is of a bisymmetrical leaf form much like the New Kingdom hippopotamus harpoon in fig. 78. Actual specimens from the Middle and New Kingdoms are very rare: I have not been able to find heads any of which could be regarded with certainty as harpoons. The two points shown in fig. 71, 72 might either have been set in foreshafts and used as fish harpoons, or have been solidly hafted as spears. It is perhaps worth while noting that they are not very well finished, though they are perfectly serviceable points.

A few words ought here to be said regarding the relative ages of the types which have been described. Petrie, in his attempt to establish the relative chronology of all the artefacts of the predynastic period, naturally did not fail to consider so interesting a class of objects as the harpoons. The range of the non-metallic points he placed between S. D. 38-58,<sup>145</sup> within which limits, he asserted, certain changes in form could be distinguished. "The earlier [scil. harpoons] have two teeth and are well worked", he writes, "later on only one tooth appears, at about the fifties, and the work is coarser".<sup>146</sup> The range of the broad bladed hippopotamus harpoon of copper Petrie declared to lie approximately between S. D. 35 and 60.<sup>147</sup> Statements of so precise and minute a nature, when applied to objects of an origin so remote, are always liable to revision, and the present instance is no exception to the rule. The accumulation of evidence has shown that one is here justified only in making chronological divisions on broad lines. The bone, ivory, and horn harpoons, irrespective of type, range from near the beginning of the predynastic period to the advent of historic times, when the two-barbed type, as has been seen, was imitated in copper. These copper derivatives themselves belong to the very end of predynastic times and to the protodynastic period. The heavy copper harpoon which Petrie carries back to S. D. 35 belongs in reality to the late predynastic period, after a chronological point which would about correspond with his S. D. 65. In the representations on the Egyptian monuments this single barbed type, or one very similar to it, appear as the characteristic harpoon of the Old Kingdom; symmetrical two-barbed examples are shown in scenes of the Middle and New Kingdoms, and, as has been noted, an actual specimen of a bilaterally barbed harpoon head or spear head, dating from the New Kingdom, has been found (fig. 71). In the Late Period the harpoon seems to have become rare, though we hear of its use in hippopotomus hunting in Graeco-Roman times. To judge from some of the harpoons represented as divine attributes in the Ptolemaic period, the favorite

<sup>145</sup> Petrie, *Diospolis Parva*, pl. 3 (sequence table).

<sup>146</sup> *Ibid.*, p. 22.

<sup>147</sup> *Ibid.*, pl. 4.

type then employed was a bilaterally barbed weapon, the butt end of the shaft of which terminated in a U-shaped crotch like that seen in fig. 79.<sup>148</sup>

In modern Egypt the harpoon is not used, though it survives, like the ambaj craft, in the Sûdân. A single barbed type set in a wooden foreshaft is employed in Karkoj (fig. 86), and — by the Shilluk — on the White Nile (fig. 85). The Karkoj type has a straight shaft, to the butt of which the line bent to the head is made fast. This allows the fisherman, after his fish has been struck, to reverse the shaft and play his quarry. If the latter is very powerful, the shaft is let go, and acts both as a float and a drag. The Shilluk harpoon is similarly rigged, but is rendered very individual in character by having a bow-shaped shaft. Other Sudanese harpoons, used for hippopotamus hunting, are hafted in the manner which I have described as having most probably served for the bone, horn, and ivory heads of predynastic Egypt — the heads are set directly into a socket in the end of the shaft, without any intermediary foreshaft. Harpoons of this class are found in the Blue Nile basin,<sup>149</sup> and on the Albert Nyanza.<sup>150</sup> This simple connection between the detachable head and the pole is also seen in Dyur crocodile harpoons, of which a two-barbed example is shown in fig. 84.

The use of floats attached to harpoon lines I have already alluded to: though rarely depicted in the scenes, it is probable that they were in common use. In modern Africa floats are widely employed, especially in the pursuit of the hippopotamus. Thus, the Hamran on the Taka frontier use floats made of ambaj "as large as a child's head",<sup>151</sup> on Lake Albert, the single barbed hippopotamus harpoon is connected with an ambaj float "about fifteen inches in diameter";<sup>152</sup> floats are used among the Bari,<sup>153</sup> the Basoga,<sup>154</sup> and the Washashi,<sup>155</sup> as well as elsewhere by other tribes. The float is of course primarily useful in that it enables the hunter or fisherman to follow the course of the quarry beneath the surface of the water: it also harasses and frightens the stricken animal, which almost always 'puts on speed' to escape from this relentless pursuer. On occasions, moreover, the float is caught in the bight of a rope, and the quarry thus secured after its first strength

<sup>148</sup> Cf. the examples given by M. A. Murray, Ptolemaic clay-sealings (*Zeit. f. Ägypt. Sprache*, vol. 44, pt. 1) pl. 4, figs. 43-47. The harpoon shown in *Ibid.*, pl. 4, fig. 53 is probably meant for a weapon mounted like that here shown in fig. 78.

<sup>149</sup> Baker, Nile tributaries, p. 333.

<sup>150</sup> *Idem*, Albert N'yanza, vol. 2, p. 97.

<sup>151</sup> *Idem*, Nile tributaries, loc. cit.

<sup>152</sup> *Idem*, Albert N'yanza, loc. cit.

<sup>153</sup> A. J. Mounteney-Jephson, *Emin Pasha and the rebellion at the Equator*, New York, 1891, p. 130.

<sup>154</sup> J. Roscoe, *Northern Bantu*, p. 239.

<sup>155</sup> P. Kollmann, *op. cit.*, p. 201 and fig. 341.

has been expended, is skilfully played to a standstill — a practice well-known to the Hamran hippopotamus hunters.

From the beginning of the Middle Kingdom onward the reel appears to have been sometimes used in conjunction with the hippopotamus harpoon: a fine example, represented in a XII Dynasty tomb, is shown in fig. 80, and the attendant standing behind his master in fig. 67, holds what appears to be another.<sup>156</sup> The origin of this invention is to be sought in the simple stick on which hanks of cord were wound.<sup>157</sup> In its most developed form the Egyptian reel consists merely of an axle run through holes in the ends of a semi-circular handle. The ends of the axle were set in handles which to some extent facilitated the process of winding up the line (fig. 80).

In concluding this section, I wish to say a few words about the occurrence of the hippopotamus in ancient Egypt: the topic obviously deserves some notice after what has been said above. That the hippopotamus was common in predynastic times is well known: its survival, at least in the swamps of the Delta, until the end of the Old Kingdom, can be questioned only by those who regard the many and highly realistic representations of these creatures in the tomb paintings as due to the fancy of the artist rather than to his observation. At what time the hippopotamus, which is now not found in the Nile north of the Sûdân, disappeared from Egypt, it would be hard to say, but I am inclined to believe that in the Delta fens a few of these animals may have persisted even into the Graeco-Roman period. Pliny speaks of the depredations which they made on the fields of the Egyptians, and says that hippopotami were found above Sais<sup>158</sup> — a statement for which, as for some others, he appears to have no graver authority than the 'longa, incondita, et nullius fidei farrago' of Nicander's *Theriaca*.<sup>159</sup> Evidence not much more weighty is afforded by the Palestrina mosaic, in the lower left hand quarter of which is depicted a hippopotamus hunt, the beasts there being represented as attacked with harpoons by men in the bows of a fairly large boat.<sup>160</sup>

<sup>156</sup> J. J. Tylor, *Sebekhnekht*, p. 5, calls this object "a float designed to mark the position of the thrown spear". I readily admit the possibility of this explanation's being correct, but consider that the object held by *Sebekhnekht*'s attendant resembles the reel in fig. 80.

<sup>157</sup> Cf. the † hieroglyphs in Griffith, *Hieroglyphs*, pl. 9, fig. 180, and text p. 44; *Id. ap. Davies*, *Ptahhetep*, pt. 1, pl. 14, fig. 296, and text p. 33.

<sup>158</sup> Pliny, *op. cit.*, XXVIII, 8 (31).

<sup>159</sup> Nicander, ed. O. Schneider, 1856, *Theriaca*, 566 sqq.:

ἡ ἱπποῦ, τὸν Νεῖλος ὑπὲρ Σαῖν αἰθαλέσσαν  
βόσκει, ἀρούρησιν δὲ κακὴν ἐπιβάλλεται ἄρπην.

The Scholiast, *ad. v.* 566, has, Σαῖς δὲ πόλις Αἰγύπτου γέμουσα ἱπποπόταμων. This may be nothing more than a guess.

<sup>160</sup> O. Marucchi, 'Il grande mosaico prenestino della inundazione del Nilo' (Separate from *Atti della Pont. Accad. Rom. d'Archeol.* vol. 10, Rome, 1910), pl. *ad fin.* (= Tav. 11-15). This monument ought never to be cited without the greatest reserve, for it is but a *mélange* of Nile wonders. The presence of the hippopotami may belong, like some of the architectural features of the mosaic, to Egypt; or, like the rhinoceros and the giraffe, both of which are

More worthy of consideration, yet not to be cited as in any way conclusive, are the words of Aristotle, ὁ δ' ἵππος ὁ ποτάμιος ὁ ἐν Αἰγύπτῳ,<sup>161</sup> and the statement of Hecataeus, incorporated in the second book of Herodotus, to the effect that at Paprêmis the hippopotamus was held sacred.<sup>162</sup> This latter assertion receives a general confirmation from the Egyptian evidence (Taûrt, etc.), and from a popular usage recorded by Plutarch — viz., that in Egypt a bound hippopotamus was stamped on certain little cakes annually eaten at a festival of Isis.<sup>163</sup> Such a custom probably originated in the ceremonial consumption of actual hippopotami, and whether the substitution of the stamped cakes for the real flesh was due to the scarcity of the beasts, the decline of hunting, or to other causes, the fact that the hippopotamus was thus remembered by the people points, if not to its sporadic continuance in the Delta, at least to the comparative recentness of its extinction. Diodorus Siculus, who dwells on the damage done to the crops by these animals, adds that if they were more prolific it would go very hard with the Egyptian farmer.<sup>164</sup> This, I take it, lets us see the true state of affairs in the Delta at the time Diodorus visited Egypt (ca. 20 B. C.) — the hippopotamus survived and was recognized as a nuisance, though of rare occurrence. Diodorus tells us, without naming the locality, that it was hunted, and gives us a description of the methods employed in taking it. "It is hunted by many persons together," he writes, "each being armed with iron darts. As soon as it comes to the surface of the water, they surround it with their boats, and closing in on all sides they wound it with the blades furnished with iron barbs, and having hempen ropes fastened to them, in order that when wounded it may be let out, until its strength fails it from loss of blood."<sup>165</sup> This description, if for iron<sup>166</sup> harpoons copper ones were to be substituted, might apply almost verbatim to some of the hunting scenes of the Old Kingdom (cf. fig. 82).

§ 6. **The bident.** Our knowledge of the bident, or two-pronged fish spear, is based wholly on the ancient representations: among the spear and harpoon heads found in Egyptian excavations are none which appear to have been designed to be hafted in pairs.

figured, to Ethiopia. I may note here that whereas the mosaic displays a typical Egyptian pigeon cote, several convincing reed canoes — in one of which a fisherman is seated with a rod — and a credible cane hut, a man in front of the latter grasps a barbed trident — a form of fish spear common in ancient Greece and Italy, but unknown in Egypt.

<sup>161</sup> Aristotle, *De animalibus historia*, II, 7.

<sup>162</sup> Hecataeus, ed. R. H. Klausen, Berlin, 1831, frag. 293 [= Herodot. II, 71; *teste* Porphy. *ap.* Euseb. *Praep. Evang.* X, 3, p. 166B].

<sup>163</sup> Plutarch, *op. cit.*, § 50. Cakes similarly stamped with another bound Typhonian animal, the ass, were also eaten on other occasions; *Ibid.*, § 30.

<sup>164</sup> Diodorus Siculus, I, 35 (vol. 1, p. 42 Wess.).

<sup>165</sup> *Ibid.*, loc. cit.

<sup>166</sup> W. M. F. Petrie, *Memphis* 1, London, 1909, pl. 51, fig. 14, figures an iron object of the Coptic period which he refers to (text, p. 15) as "a fish-harpoon" from Athribis. I regret my inability to reconcile the profile of this specimen with the front view of it. Had I been able to understand the drawing I would have reproduced it with pleasure, for the harpoon — if it is indeed such — is of unusual form and interest.



It is a general characteristic of all bidents, whether of primitive or of civilized peoples, that the two points are so mounted as to have their barbs on the inside: by such an arrangement a fish caught in the spread of the prongs is held in a very secure fashion. This often leads to the beveling of the shank towards its butt end, on the same side as the barb or barbs, so that the two heads, when lashed on opposite sides of the pole, will trend apart from each other, like the arms of a V. No heads, either of bone or metal, which have been found in Egypt exhibit this characteristic, nor are such specimens as have survived from ancient times suitable in other respects for bident points. This absence in itself cannot be regarded as significant: too few barbed points of any sort have come down to us for the rarity of any particular type to call for explanation. But quite independently of this, the bident spear, so frequently represented on the monuments, may have been comparatively rare, for its use, if we are to trust the ancient representations, was restricted to the nobles.

The peasant fisherman of the Old Kingdom made use of nets, hand nets, lines, and traps: the noble is never represented as using any of these devices, though in later times, with the growth of sedentary life, the owners of large tombs are sometimes depicted as angling. The orthodox fishing weapon of the Old Kingdom noble, whose life was largely one of vigorous physical activity, was always the bident. As this type of spear is not seen in the hands of the professional fisherman, it must be regarded either as a purely sporting weapon, or as one inherited by the upper classes from an ancestry whose culture, in this particular, varied from that of the peasantry. Similarly, one sees the throwing stick regularly used by the nobles in the Old Kingdom fowling scenes, whereas the peasants appear to have taken birds only by means of traps and clap nets.<sup>167</sup>

The bidents figured upon the monuments are of two sorts — in one the points are lashed firmly to the end of the shaft (fig. 47); in the other, a secondary piece is fastened to the shaft at some distance from the lower end of the latter (fig. 46).

Of these two types the former is by far the commoner in the representations: in the Old Kingdom it is the only one depicted. The skill and care with which these spears were sometimes made is well illustrated by the XII Dynasty example here reproduced in fig. 47 — the original is in the tomb of Khnumhotep at Beni Hasan. The two heads, as is always the case, carry each one barb. The tangs are fitted into slots to receive them on opposite sides of the end of the shaft. They are kept in place by a whipping passed round the end of the shaft, and by a crisscross lashing which travels up the shaft and ends in

<sup>167</sup> The name of the bident *kéwy*, "the two bones" (dual), cannot be said to throw any clear light on the question. The sing. *ké* "the bone," is the name for the bone or ivory harpoon head of prehistoric times; Griffith, *Hieroglyphs*, p. 52, sq. What may be a specific allusion to the use of the bident by the nobles exists in the biographical inscription of Henku, but the text is damaged and obscure; Davies, *Deir el Gebrāwi*, pt. 2, pl. 24, col. 7-8, and text p. 30; cf. Breasted, *Ancient records*, vol. 1 § 280.

another whipping or round turn. The two heads, which, as they are rendered in black <sup>168</sup> in the original are presumably of copper or of bronze, <sup>169</sup> have long shanks widening towards the tangs. Near the middle of each shank a lashing is attached — just how cannot be made out. These lashings are made fast to a figure 8-shaped twist between the heads, and from this twist crossed cords are passed to the end of the shaft. These cords are probably those with which the shaft is whipped and wound: their purpose was to keep the two prongs of the spear from spreading too far apart when a strike was made.

The second type of bident <sup>170</sup> (that shown in fig. 46) is more simply made, as may be seen from the detail drawing. The length of the secondary prong suggests that it was of wood rather than of metal. The example shown in fig. 46 is of exceptional interest, for the spear — the only one of its sort which has come under my observation — is represented as feathered at the butt. The wife of the noble using this weapon holds in readiness behind him a bilaterally barbed single headed harpoon or spear also feathered at the butt. I am not free from a suspicion that the feathering of these weapons may be due to the fancy of the Egyptian artist, or to an error of the modern recorder of the scene.

In the preceding section I have remarked that in using the harpoon the weapon was delivered with a downward thrust. The normal posture in using the bident (fig. 45) as portrayed on the Old Kingdom monuments suggests that the spear was cast and not thrust. In the fish-spearing scenes the artists, as so often happens, tend to synchronize more than one action. Thus, in fig. 45, the hands direct the weapon, and the position of the index finger of the right hand graphically denotes that the spear is about to be launched: but this has not prevented the artist from representing the points of the bident as being already imbedded in two large fish (a *Lates niloticus* and a *Tilapia nilotica*). A like condensation frequently appears in the other fishing scenes of this sort, <sup>171</sup> and affords a curious example of the way in which the stock types of the Old Kingdom completely dominated the Egyptian artist.

§ 7. **The hook and line.** Until toward the close of the predynastic period the fish hook is not found in Egypt — none of those variously fashioned hooks of bone or shell which are found in so many neolithic cultures in other parts of the world were known in the Nile Valley, where the first hooks, well made ones of copper, suddenly appear shortly before the dawn of the historic age. No non-metallic prototype to the Egyptian fishhook has been found; but it has been suspected that in the earlier prehistoric period gorge baits in the

<sup>168</sup> Cf. Griffith, Beni Hasan, pt. 4, p. 3.

<sup>169</sup> Bronze, as opposed to copper, does not appear in Egypt until after the end of the O. K.

<sup>170</sup> Another example of these weapons will be found in U. Bouriant, Tombeau de Harmhabi (Mém.... de la mission archéol. franç. au Caire, vol. 5, fasc. 3, Paris, 1893), pl. 6.

<sup>171</sup> e. g., Davies, Deir el Gebrāwi, pt. 2, pl. 5.

form of bits of flint or of bone spindles, may have served the fisherman in lieu of hooks.<sup>172</sup> Spindle gorges are common among primitive peoples,<sup>173</sup> and the numerous bone and ivory points, all more or less like the "slender rod or pin of ivory" <sup>174</sup> shown in fig. 12, which have been found on predynastic sites, may have been employed in gorge fishing. This, be it understood, is a pure conjecture; but some color is lent it by the appearance, side by side with the earliest copper hooks, of copper spindles pointed at either end. Some of these spindles are bent in the middle as if they had been used as gorges.<sup>175</sup>

The earliest Egyptian hooks are of the simple forms shown in figs. 87-97. Compared with many of the bronze hooks of Europe, especially with those from the Swiss Lakes, their length, from the head to the bottom of the bend, is short in proportion to their width, from the outside of the point to the outside of the shank. The bend is either a half-round (figs. 87-93) or angular (figs. 94-97). The point is always barbless, and the head, which in all cases lies in the plane of the hook, is formed by doubling over the end of the shank against the outside of the latter, so as to form a stop (figs. 87, 90, 94, 95?, 96), or an eye. These eyes might be either open (figs. 88, 89, 91, 97) or — more rarely — closed (figs. 92, 93, 95?). The points of the hooks are sometimes bent in a way which suggests their having been altered by use (cf. figs. 89, 92). The late predynastic hook shown in fig. 93 is exceptional in that the cross sections of the shank, bend, and points are square, although the end of the shank which is turned for the eye is made round. This hook, which comes from Nubia, is also exceptionally stout, though other hooks of approximately the same date are often fairly heavy in comparison to their size (cf. figs. 87, 94).<sup>176</sup> In length these hooks range from about 2 to 6 cm.

Unbarbed hooks like those described were in common use until Middle Kingdom times,

<sup>172</sup> Cf. J. de Morgan, *op. cit.*, [2], p. 86.

<sup>173</sup> E. g., an "ingenious device employed along the N. Pacific coast for catching fish consisted of a straight pin, sharp at both ends and fastened to a line by the middle; this pin was run through a dead minnow, and, being gorged by another fish, a jerk of the string caused the points to pierce the mouth of the fish, which was then easily taken from the water"; F. W. Hodge [ed.], *Handbook of American Indians*, pt. 1, p. 463.

<sup>174</sup> D. Randall-MacIver, *El Amrah*, p. 19.

<sup>175</sup> E. Amélineau, *Les nouvelles fouilles d'Abydos, 1897-1898* [pt. 1], Paris, 1904, pl. 8, fig. 11. In his text ([pt. 2] Paris, 1905, p. 447), Amélineau refers to these objects as needles. They might be pins, tatooing implements, or small piercers — how, without an eye or a head, and with tapered ends, they could have served as needles, it is difficult to see.

<sup>176</sup> The stoutness of some of the early hooks is responsible for a grotesque absurdity on the part of E. Amélineau, who found several of these objects when he excavated — or, rather, looted — the tomb of Perabesen. The hooks which he discovered resemble those here shown in figs. 90 and 96. In referring to the larger of them he remarked: "L'entaille de ces deux hameçons [his figs. 20 and 23], et surtout celle du numero 24 [an error: his fig. 24 is not a hook at all] devait défier les efforts les plus vigoureux: c'était sans doute de semblables hameçons dont se servait pour la chasse à l'hippopotame, comme on le voit dans les représentations des tombeaux"; Amélineau, *op. cit.*, [pt. 2], p. 498, with ref. to *Ibid.*, [pt. 1], pl. 8, fig. 20-23. I trust I need hardly remark that the tomb paintings Amélineau refers to show hippopotami held by harpoons and retrieving lines, and that fishing for such creatures with hooks is unheard of.

and were not wholly unknown in the XVIII Dynasty, though they had then become rare and of a form different from that of the earlier types (fig. 105). The forms of the hooks seen in the "gang" depicted in the tomb of Gem-ni-kai (fig. 103) is identical with some of those just mentioned (cf. figs. 90, 91), and in the hands of a vendor represented in another Old Kingdom scene<sup>177</sup> are three large hooks — the size is probably somewhat exaggerated by the artist — of the angular pattern (fig. 229; cf. figs. 95, 96, 97). The unbarbed type as it occurs in the Middle Kingdom is hardly distinguishable from some of the older examples (fig. 98, 99, 100) except in the unique and doubtful case of the hook here reproduced in fig. 104. This object, made of bronze and of a flat cross section, is described as a fishhook by E. Naville, who recorded its discovery at Deir el-Bahri.<sup>178</sup> It is difficult to dispute this identification if the object really belongs to the period to which Naville attributes it, but if it belonged to Graeco-Roman times one would have no hesitation in describing it as one of those implements, so common in the late classical period, which served to catch and pull up the wick of a lamp.<sup>179</sup> It is therefore better to suspend judgment in this case until further evidence has accumulated. The decline of the barbless hook is seen in the New Kingdom example already cited (fig. 105) — a late case which is not unquestionable, as it is possible that the hook may have had a poorly worked barb which has rusted away.

Barbed hooks first appear in Egypt in the XII Dynasty (fig. 101, 102). The heads of these hooks are like those earlier ones with stops made by turning over the extremity of the shanks. The curves of the bends are rounded-angular, and the barbs are well developed and suitably placed. With slightly modified proportions these hooks last on through the New Kingdom (figs. 106, 107 — XVIII Dyn.), and even into the Late Period, when they appear in iron on the Graeco-Egyptian sites like Naucratis and Daphnae (figs. 113, 114, 115 — XXVI Dyn.). The New Kingdom hooks are regularly barbed, but comparatively few of them are headed up, like those in figs. 106, 107, in the older fashion. Instead, the end of the shank is expanded slightly by hammering so as to form a small flange in a plane at right angles to that of the hook (cf. figs. 116, 120). A line bent on the shank below this flange and drawn hard up against it, is less liable to chafe through than one made fast to a hook of the earlier type. In some cases the flanges of the heads were very slight, and in many they have disappeared from weathering, but in well preserved hooks they are clearly visible (fig. 111). The New Kingdom fishhooks (figs. 105–112) are well designed, generally speaking, but their barbs are often less intelligently placed

<sup>177</sup> The scene in question has been discussed by G. Maspero 'Sur une représentation de bazar égyptien ramontent à l'ancien-empire' (Études de mythologie et d'archéologie égyptiennes, vol. 4, Paris, 1900, p. 256).

<sup>178</sup> E. Naville et al., The XIth Dynasty temple at Deir el Bahari, pt. 3, p. 26.

<sup>179</sup> C. J. Toutain, 'Lucerna, Lychnus' (Daremberg and Saglio, Dict. des antiq., vol. 3, p. 2, p. 1322 and fig. 4597, p. 1328).

than are those of the Middle Kingdom specimens — a point which was noticed by Petrie in connection with some hooks which he excavated at Medinet Gurob.<sup>180</sup> By Graeco-Roman times the Egyptian hooks (figs. 116–120) came to differ only insignificantly from those used by the classical world at large. Those which have been preserved from these late times, like the early examples, are for the most part of copper or bronze — a circumstance which may be due to the enduring quality of these metals, since from about 600 B. C. iron hooks were used in Egypt (figs. 113–114), at least by the Greeks.<sup>181</sup> Modern Egyptian hooks are of iron or steel, are strongly curved, have the flange stop, and a deep barb (fig. 121).

Upon the ancient monuments representations of the use of the hook and line are not uncommon, though such scenes are generally subsidiary to those depicting the hauling in of nets. In the Old Kingdom the angler is generally represented, probably with truth, as an elderly peasant — one, presumably, no longer active enough to be of assistance in the brisker business of hauling a seine. The angler sits comfortably in his small papyrus canoe, using a line to which, as a rule, no sinker appears to be attached (figs. 122, 124, 127). Occasionally two lines were used at once — a Middle Kingdom scene shows us a fisherman propped against a bolster in the stern of his canoe, while his left hand grasps a pair of lines, the ends of which, for greater security, he has twisted round his wrist (fig. 128). Large fish were despatched when caught by a knock on the head from a short club (figs. 122, 123, 126, 127).

The use of gang hooks in the Old Kingdom has just been alluded to: I know no better representation of one of these modern-looking affairs than that already cited from the tomb of Gem-ni-kai (fig. 103). There the line is held by the fisherman, who extends his index finger to feel the faintest bite; below the water the end of the line is armed with a gang of five hooks, on one of which, by the synchronistic convention of the artist, a large fish is shown as already caught. At the point where the hooks are made fast to the line a sinker is attached. The use of such gangs as these appears to have been fairly common (figs. 126, 130).

In the Old Kingdom, fishing with the hand line was done from canoes: fishermen probably often went out early in their small balsas and made a long day of it, as we may infer from the provisions represented in the canoe of the elderly peasant in fig. 122. In the Middle Kingdom we have scenes of men fishing from the bank with the hand line, and the use of the pole is then first depicted (fig. 125). When the pole was used the line was made fast to its end, and not led down to the butt.<sup>182</sup>

<sup>180</sup> Petrie, Kahun, Gurob and Hawara, p. 34.

<sup>181</sup> In the Mediterranean world, hooks made of bronze were in use as late as the end of the second century A.D.; Oppian, *Halieutica*, I, 54; 68; III, 285; 525; IV, 230: 443. Iron hooks had however also come into general use by that time.

<sup>182</sup> Fig. 125 does not show the fastening, nor is it plain in the original I have endeavored to copy. The same scene is, however, given with more detail in Lepsius, *Denkmäler*, pt. 2, pl. 127. Wilkinson, *op. cit.*, vol. 2, fig. 370, p. 115 shows a N. K. representation of a nobleman fishing in a stocked pool or in a canal. Seated in a chair placed on a reed mat the fisherman holds a short pole to which several lines are bent.

We are ignorant as to what baits were used by the ancient Egyptian fisherman. His modern successor dresses his hook with scraps of meat, with minnows, or — a frequent practice — with lumps of dough. In many cases he uses no bait at all, but fouls his fish by means of a naked hook attached either to a hand line or a ground trawl. Bait is not shown on the hooks in the ancient scenes, but as the fish are there often shown as being taken by the mouth, there is no doubt but that the hooks were dressed. A curious allusion to baiting may occur in an obscure and dubious passage in the Book of the Dead, which appears to read: "I have not caught fish" — it is the deceased who speaks — "[with bait made of] the fish of their kind."<sup>183</sup> The implied prohibition, if the passage is not purely metaphorical, is one of some interest.

By way of conclusion to this section, it may be again observed that whereas Egypt shows us the development of the metal fishhook from its simplest to its most finished form, it is rather curious that no bone or shell prototypes of the metal hooks have yet been found. It is also worthy of notice that several European types of fishhook which are found fairly well distributed throughout the northern Mediterranean, are totally unknown in Egypt. Thus, the double hook, either barbed or unbarbed, commonly found in Bronze Age Switzerland, and, later, in Italy, is conspicuously absent, as are hooks with a split eye, an eye made by twisting the end of the shank around itself,<sup>184</sup> a shank notched at the end, corrugated at the end, or headed in a round button. Not even such fishhooks, moreover, as have been found in early Syria bear anything more than a general resemblance to the Egyptian types.<sup>185</sup>

§ 8. **The weel.** The wicker fish trap or weel is so widely employed throughout the world that it would be a matter for surprise if it were not represented on the ancient Egyptian monuments. The savage fisherman who has learned to construct rude weirs and fish-runs soon proceeds, especially if he is following his calling beside the moving waters of a tidal bay or of a river, to set baskets at openings in his fences,<sup>186</sup> and it commonly

<sup>183</sup> Budge, *Book of the Dead*. Text, c. CXXV, *Introd.*, 15 = p. 251; *Ibid.*, *Trans.*, p. 192, for the rendering given above.

<sup>184</sup> This type is found in Crete; H. B. Hawes, *Gournia*, Philadelphia, 1908, fig. 47.

<sup>185</sup> Cf. R. A. S. MacAlister, *The excavation of Gezer 1902-1905 and 1907-1909*, London, 1912, vol. 2, fig. 275, c, and text p. 86 sq.; vol. 3, pl. 134, fig. 40 and text, vol. 2, p. 86, note.

<sup>186</sup> As an extra-African example of the weel used in conjunction with guide fences, cf. E. W. Nelson, 'The Eskimo about Bering Strait' (XVIIIth Ann. Rep. Bur. Amer. Ethnol., Washington, 1899) pl. 70, fig. 3, and text, p. 184 sq. In Africa, the use of weels big and small is well nigh universal wherever fishing is practised; e. g., among the Manyema "across each small stream or backwater dams are built of hurdle-work, with conical openings at intervals, something like the entrance to a wire rat-trap. When the waters begin to subside, the fish endeavor to pass through these dams to the perennial streams. The women then go fishing in the following manner: Doffing their grass-cloth aprons, and replacing them with leaves, they take enormous baskets — some seven feet long, two feet six inches deep, and two feet wide in the middle — made of close mat-like work of split cane. These they set under the openings in the dams, which are then unfastened, while some of the dark sportswomen go into the stream and drive the terrified fish toward the dam. The fish, seeing no chance to escape save by these holes, jump through into the baskets ready for their reception"; V. L. Cameron, *Across Africa*, New York, 1877, p. 251. See below, descriptions of figs. 133, 136.

happens that in time such baskets are developed into true weels with funnel-shaped mouths designed to facilitate the entrance, while they prevent the escape, of fish. The employment of baskets as hand scoops is also a practice which has in all probability occasionally contributed to the development of the wicker fish trap.<sup>187</sup>

The tomb paintings of the Old Kingdom picture the use of two types of fish pots. The first was small, and of very simple construction (figs. 129, 132, 148); the second, which is less commonly represented than the first, was a large affair of such size that several men were needed to manipulate it (figs. 130, 131). Traps of the smaller sort were about 1 m. 50 long: this, at least, I judge to have been the case by the position in which one specimen is being held (fig. 132).

The greatest diameter, which occurred not at the mouth of the basket but near its middle, appears to have been about a third of the length: i. e., about half a meter. At frequent intervals throughout their length traps of this class were bound around with rope (cf. fig. 132), while the small opening at the end was sometimes tied around with a stouter cord for binding (fig. 129). Near the rear end of the pot, around its narrowest part, ran a cord by means of which the end could be closed while the trap was being used. This detail can be discerned by a careful scrutiny of the right hand pot in fig. 132, and it also accounts for the transverse lashings in the two right hand pots, shown as having been just set, in fig. 148. Usually this important feature has been omitted by the artist, but in the scene last cited the man setting one of the weels on the left is represented as tying up the neck of the pot with a short cord. In order to remove the fish from the pots it was of course necessary to untie this cord, after which the contents of the trap could be dropped through the bottom into a basket (figs. 132, 148).<sup>188</sup>

Small traps were probably weighted inside and set on the bottom in shallow water, for they are not represented as being fitted with floats. In fig. 129 a weel is being set in a small canal, and the intention of the artist in representing two pots facing right and two facing left in fig. 148 may have been to show how the fisherman set his pots in a small canal so

<sup>187</sup> "The Teso women catch fish in baskets of elliptical shape, rather deep, and curving in towards the top edge; with these they sweep along the water of shallow swamps and rivers, or the margin of lakes, and make good hauls of small fish in the manner of a shrimping net"; A. L. Kitching, *On the backwaters of the Nile*, London, 1912, p. 213. Cf. Loat, *op. cit.*, fig. 27, p. xlviii, for a similar usage among the Shilluks and Dinkas at Kaka, some 70 miles north of Fashoda.

<sup>188</sup> The basket, or rather bag, commonly used by the fisherman appears to have been made of rushes and cords, and to have resembled in shape the 'string satchels' familiar to many modern school children. See figs. 23, 128, 130, 131, 148, 212, 228, 231; cf. E. Naville, *op. cit.*, pl. 28, fig. 1, and text, p. 18 (a bare mention), for a good example of a string bag resembling that of the fisher folk. The fisherman's bag had beackets worked in each of the two top corners, and, often, a short tail left at each of the two bottom ones. The bottom corners were sometimes strengthened; cf. von Bissing, *op. cit.*, pl. 28, figs. 124-128. V. Scheil has mistaken (in a N. K. market scene) one of these bags which a fisherman is emptying into a woman's basket, for a piece of cloth; V. Scheil, *Le tombeau d'Apouï* (Mém. . . . de la mission archéol. franç. du Caire, vol. 5, fasc. 4, Paris, 1894), p. 610, and pl. 2, top. A fish basket of different shape from those cited is shown in fig. 32.

as to catch fish swimming either up or down stream. There is no evidence to show whether or not the pots were baited — in the majority of such modern instances as have come under my notice they are not, but bait is not uncommon.

The large weels were of a more complex structure than those just described, and from the representations it is difficult to understand exactly how they were built and manipulated. The representation here reproduced in fig. 130 is only of service in a general way, and it is on the example given in fig. 131 that we must chiefly depend for our knowledge of these devices.<sup>189</sup> The mouth of this trap (right) is bound with rope,<sup>190</sup> and seems to be tied to a stake (top of opening). Near its end the wheel is supported by a large float.<sup>191</sup> Two fishermen are pulling on a rope which at this point gathers the weel to a diameter as small as that of the necking at its end. At this second necking another rope, passed twice around the weel, is attached. Just what the internal construction of the trap was, cannot with certainty be said: it is not even clear whether the fishermen are taking their catch or setting the trap. A possibility may be suggested:— the long part of the trap had a mouth which, though funneled, was even larger than appears from the representation (cf. the relatively greater width of mouth in fig. 130); the long part was fixed in position by a stake at its mouth, and gradually narrowed until it entered the space between the two roped neckings — a space forming a secondary chamber — by means of a funnel just large enough to allow the comfortable passage of a large fish. If the long weels were indeed thus arranged, it is clear that the tightening of the rope around the first necking would be desirable when raising the end of the trap to take out the fish: their removal, of course, would be here effected through the rear end of the weel, as in the case of the smaller traps. Such an arrangement would have a parallel in the modern three-part, two-chambered fish pots employed on the Victoria Nyanza by the Waganda.<sup>192</sup>

The funnel mouths of the ancient weels are not shown in the old representations: it would have been quite contrary to the principles of Egyptian graphic technique to have indicated them. Their character cannot, however, have differed from that of the modern pots, two of which are given in figs. 133, 136. That shown in fig. 133 differs from the ancient ones of small size in being conical instead of having rounded convex sides, and in not being bound round at intervals throughout its lengths. It is employed in the canals emptying into the Birket Kārûn (Fayûm), and is thus described by Loat:—

<sup>189</sup> F. W. Bissing, *op. cit.*, vol. 1, pl. 18, gives a fine but badly weathered scene in which two boats' crews are pictured setting a big weel.

<sup>190</sup> Cf. the copy in G. Maspero, *The dawn of civilization*,<sup>4</sup> A. H. Sayce, trans. M. L. McClure, New York, 1901, p. 61.

<sup>191</sup> A pair of these floats, along with other gear, is seen hanging up in the hut of some marsh men in the tomb of Ti: G. Steindorff, *op. cit.*, pl. 117.

<sup>192</sup> P. Kollmann, *op. cit.*, p. 21 sq.



"The....'gawaby' is cone-shaped and made of the dried stalks of reeds lashed together.... It has two openings so arranged that when the fish pass through the smaller one they are unable to find their way out again. At the other end the reeds are fastened together by a cord, which can be easily undone and the catch shaken out. A loose barrier is built across the stream so as to allow the water to pass down, but to check the passage of the fish up-stream. The traps are placed in openings in this barrier, and the fish coming up-stream to meet the fresh water force their way through the openings into the traps"<sup>193</sup> (fig. 134).

To Loat, also, I am indebted for the description of the Shilluk trap given in fig. 136. This trap, used on the White Nile, is of the same conical form as that just mentioned, but its likeness to the ancient weels is even a little closer in that it is strengthened at regular intervals by transverse lashings. I again quote the same careful observer:—

"The only other method of fishing [scil. beside harpooning] which I saw on the White Nile was making a dam across the mouth of a kore [*khôr* = ravine], when the Nile is going down and the water is running out of the kores and the big fish are making for the river, as the kores become shallow and isolated from the main stream, many even drying up. In this dam traps are set, made of dried reeds, about 7 ft. [ca. 2m. 15] long and the diameter of opening 2 ft. [60 cm.]. Inside is a much smaller opening so that fish passing in are unable to return"<sup>194</sup>.... (fig. 135).

When dealing with such a primitive and widely used device as the weel, it is rare that even the most detailed examination of actual specimens affords the ethnologist any sound evidence of racial contacts or of primitive cultural origins. The weel, indeed, is to be classed among those inventions of which the absence is generally of more significance than the occurrence, but, without venturing too far, some points of interest may be here noted by way of conclusion. The wide spread use of fish pots by the lake and river peoples of Africa I have already referred to:<sup>195</sup> they are also employed for salt water fishing.

<sup>193</sup> Loat, *op. cit.*, p. xxxvii.

<sup>194</sup> *Ibid.*, p. xlvii. Cf. the size of these traps and of those used by the Manyuema (*supra*, n. 176) and by the Bushmen (G. W. Stow, *The native races of South Africa*, London, 1910, p. 92 sq.) with the size of the ancient Egyptian weel as here estimated in the text.

<sup>195</sup> *Supra*, n. 186. To the citation there given from Cameron, and to the others in notes 187, 192, 194, may be added these random references: H. Capello and R. Ivens, *From Benguela to the territory of Yacca*, trans. A. Elwes, London, 1882, vol. 1, p. 154, 300 sq., for S. W. Africa; J. K. Tuckey, *Narrative of an expedition to explore the river Zaire, etc.*, London, 1818, p. 359, and Sir H. [H.] Johnston, *George Grenfell and the Congo*, London, 1908, vol. 2, p. 782-785, for the Congo; A. H. W. Haywood, *Through Timbuctu and across the Great Sahara*, London, 1912, p. 105, 186, for Nigeria; R. F. Burton, *The Lake Regions of Central Africa*, New York, 1860, p. 322; Sir H. H. Johnston, *British Central Africa*, London, 1897, p. 436; *Idem*, *The Uganda Protectorate*, London, 1902, vol. 2, p. 668; A. L. Kitching, *op. cit.*, p. 119, 213 for E. Lake Kioga. Clay fish pots, perhaps derived from wicker prototypes, were formerly used in W. Africa, at Badagry; R. and J. Lander, *Journal of an expedition to explore the course and termination of the Niger*, London, 1832 vol. 1, p. 45.

Thus, the French "nasse", which was anciently used all over the Mediterranean,<sup>196</sup> is still locally found there today, and fish pots are regularly employed on the Red Sea coast,<sup>197</sup> as they were two thousand years ago at at least one point on the African shores of the Indian Ocean.<sup>198</sup>

Of the Egyptian weels only the smaller could have been manipulated profitably in salt water, for the larger traps could not long have withstood the roughness of the seas. In this connection it may be said that the small Egyptian weel, because of the convexity of its sides, to some extent more closely resembles the ancient Mediterranean type than it does the conical Nilotic and other African traps of today. This does not, however, justify the hypothesis that the ancient Mediterranean and small Egyptian trap owed their origin one to the other, or to a common source, for the superficial resemblance due to the convex sides is more than outweighed by the structural difference seen in the way they are closed at their ends, and — as has just been intimated — devices so primitive ought not to be related except on the strongest grounds.

Long as the use of the weel has persisted in many now civilized parts of the world, it is curious to find that north of the Second Cataract it is now only known locally in the Nile Valley. At what time its use declined it is not possible to say, but if the frequency with which it figures in Old Kingdom scenes may be fairly contrasted with its non-appearance in representations of a later period, one would be inclined to believe that its use ceased to be general after the close of the Old Kingdom.

I may close this section with the remark that there are frequently represented on the Old Kingdom and later monuments small objects of rush or wicker which are usually interpreted as baskets, but which may possibly be minnow traps. As a hieroglyph the object in question is the word-sign and determinative for *g3w*, "bag." In appearance, these articles are cigar-shaped affairs of small size (perhaps about 50 cm. long), having funnel shaped ends, and a string tied to the constricted "neckings", or to either side of one end, by way of handle. According to the manner in which the string is affixed, the object is carried horizontally<sup>199</sup> or vertically.<sup>200</sup> The uncertainty I feel as to the real nature of these curious receptacles has led me to refrain from figuring them. I have

<sup>196</sup> Cf. the Sûs mosaic, where a fisherman is seen standing in the bows of a boat over-hauling a long rope to which, at intervals, small nassae of sugar-loaf form, without a long necking, are attached by cords; P. Gauckler et al., *Musées de Sousse*, Paris, 1902, pl. 6, fig. 2.

<sup>197</sup> C. B. Klunzinger, *Upper Egypt; its people and its products*, E. T., London, 1878, p. 307.

<sup>198</sup> Cf. the *Periplus Maris Erythraei*, §15 *ad fin.*, ed. C. Müller, *Geographi Graeci Minores*, Paris, 1855, vol. 1, p. 270 — 'Εν δὲ ταύτῃ τῇ νήσῳ [*scil.* Menouthias = Pemba?] καὶ γυργάθους αὐτὰς ἰδίως λινέουσιν, ἀντὶ δυκτῶν καθιέστες αὐτοὺς περὶ τὰ στόματα τῶν προρράχων.

<sup>199</sup> Steindorff, *op. cit.*, pl. 101.

<sup>200</sup> Davies, *Ptahhetep*, pt. 2, pl. 16, 27, 32.

however thought them deserving of mention in this place since, though they unquestionably appear in some scenes to have been used as baskets, their external form is almost identical with that of some of the smaller wicker fish traps of modern Europe.

§ 9. **Hand nets.** For taking medium sized fish and small fry the Egyptians used hand nets of simple construction and no great size (figs. 128, 137-142, 147, 148). The frames of these nets are essentially alike in the Old and Middle Kingdom examples; in fact, broadly speaking, only one form appears to have been known in the ancient Nile Valley. In almost every case the frame of the hand net consists of a pair of sticks crossed and lashed (fig. 142 A) near the handle ends so as to make a V. Between these two sticks, which formed the sides of the frame, a third stick was placed crosswise to act as a spreader, while the projecting ends of the V were then connected by a cord which formed one side of the mouth of the net (figs. 128, 140, 142, 147). In some representations the spreader is not shown, but since, if it were absent, there would then be nothing to keep the two side sticks apart, its occasional omission is probably due to an oversight on the part of the artist (fig. 139). In other cases, the frame of the net is seen to be strengthened by a stay of rope connecting the middle of the spreader with the middle of the cord which joins the two ends of the V (fig. 141). In the New Kingdom appears a form of hand net which, while of the same general type as the earlier ones, seems to have been strung on a frame having the form of an isosceles triangle, instead of on the sticks set V-fashion (fig. 157).

The nets themselves were generally deep (figs. 128, 137, 138, 140, 141, 147, 148), and hung between the side sticks, the cord joining the ends of the side sticks, and the spreader (best indicated in figs. 137, 138, 147, 148). In some cases the net appears to have been hung from the whole frame (cf. fig. 128) but the comparison of numerous modern examples of these V-and-spreader hand nets leads me to believe that in the case of the deep specimens this appearance is due to the artist's difficulties in showing the net in perspective. It is otherwise with the nets of the sort shown in figs. 139, 142. In these cases we see a net made on a frame like that used for the deep type, but strung so as to make a shallow scoop net.

Hand nets of the ancient Egyptian type are used today in several parts of Africa, as for example on Lake Nyasa. There nets "with handles working over each other scissor-wise, but kept in place by a crossbar" are in daily use.<sup>201</sup>

In their use both the deep and the shallow nets were held by the crotch of the V and by the transverse bar, so that the fisherman could lever the net up and down (figs. 137, 140, 142), or they were grasped at the crotch and at a point far enough out on one of the

<sup>201</sup> A. Werner, *British Central Africa*, London, 1906, p. 193.

side pieces to give the same control (figs. 139, 141). The deep nets were used from rafts or canoes (figs. 128, 137, 140, 147, 148); the shallow type, obviously intended for catching small fry, was used in shallow waters in which the fisherman waded about (figs. 139, 142). Both forms were known in the Middle as well as in the Old Kingdoms, and in conjunction with both the fisherman often made use of a net bag in which he dropped his fish when caught. These bags (figs. 128, 139, 142) were either held by the fisherman with the hand nearer the crotch of the frame, or, possibly, were tied to the latter at that place.

The simplicity of the frame of the Egyptian hand net insures its having many cognates among modern primitives: a perfect parallel, for example, is used by the Kwakiutl of Vancouver Island.<sup>202</sup> In Egypt the type survives, but has been modified in the manner seen in figs. 143, 145: the spreader has been set well up in the angle between the side-sticks, and instead of the latter being crossed, they are set in a short handle so placed between them as to bisect the angle they form. This handle sometimes (fig. 143) joins the spreader. Many of the modern Egyptian hand nets are fitted with a cord made fast to the ends of the V: by means of this cord the net can be very easily raised by the fisherman. Modern Egypt has evolved or imported a hand net to which this attachment is usually fitted, and which has in addition a long handle fastened to a semicircular iron hoop (fig. 144) — a type quite unrepresented on the ancient monuments. In the Upper Nile basin, among the Mittu, is found the net with the isosceles-triangular frame already noticed as of occurrence in the New Kingdom (fig. 146; cf. with fig. 157); but whereas the net of the ancient example appears to have been shallow, that of the modern one is deep.

§ 10. **The cast net.** The form of net most commonly employed by the modern Mediterranean, Egyptian, and Red Sea fisherman is that most rarely represented on the ancient monuments — I refer to the circular cast net, of which a modern Egyptian example is given in fig. 150, and the use of which I have tried to illustrate (after Loat's excellent photographs) in figs. 152, 153, 154.

The simplest of the modern Egyptian cast nets, as employed from Khartûm to the Delta, is circular in shape, and has an average circumference of about 15 m. with a 1.5 cm. mesh. Both circumference and mesh vary a good deal, the smaller meshed nets being, of course, the more expensive. To the middle of the net is attached a strong cord, while a thinner cord runs round the circumference. Leads, spaced about 8 cm. apart, are bound to this latter cord, which is caught up on the inside of the net every 40–50 cm. so as to form all along the inside of the net, at its bottom, pockets some 15 cm. deep. These

<sup>202</sup> F. Boas, *The Kwakiutl of Vancouver Island* (Jessup North Pacific Expedition, vol. 5, pt. 2), Leyden and New York, 1909, p. 467, fig. 145. Small olachen net with wishbone-shaped frame and rectangular opening.

pockets serve to hold fish not otherwise entangled in the net.<sup>203</sup> The use of this net is thus described by Loat (see figs. 152-154):—

“The cord, and the middle portion of the net to which it is attached, is gathered up in the right hand, half the net now hanging down in front of the fisherman, who then throws the edge of the net over his right elbow, which is held at right angles to the body, and gathers up one half of the free portion in his left hand whilst the other half is left hanging down in front of him. He is now ready to make a cast, and firmly planting his feet on the ground he turns the upper part of his body away from the water and then swings smartly back again, releasing the net from his left hand. . . . The impetus gained by the swing carries out the free portion of the net and at the same moment he lets go the rest of the net and the cord which is held in his right hand, except the end, which is, of course, retained. If the net is properly thrown it should fall on the surface of the water in a more or less complete circle. The net is now allowed to sink to the bottom and is then carefully drawn in, the fish are taken out and the water squeezed out of the net, which is gathered up for a fresh cast. This form of net is most efficacious in shallow water, and if it is muddy so much the better, as the fish are not frightened by the shadow of the net as it is being cast. When the water is clear satisfactory results are often obtained by using it at night. Before casting, the fisherman sometimes throws in a large stone or strikes the water with a stick, this often having the effect of attracting fish to the spot.”<sup>204</sup>

The cast net here shown in fig. 150 is of a design somewhat more advanced than that described above, but it is cast in the same manner and is approximately of the same size — Loat mentions as an example one which measured 60 feet (18 m. 25) in circumference, and which had a  $\frac{3}{4}$  inch (2 cm.) mesh. The weights set on the edges of these nets are very close — generally they are spaced about 2.5 cm. apart, and they are rarely as much as 8 cm. In the center of the net is a small wooden hoop or ring, through which pass six cords which are attached, at equal distances apart, to the edge of the net. About a meter above the hoop all the cords are made fast to a strong rope. Each of the six cords has two others attached to it about 2 m. from the edge of the net: these subsidiary cords are themselves fastened, like the six, to the binding rope of the circumference. Other yet smaller cords branch off the subsidiary pairs and are tied to the binding rope, until the circumference of the net is thus fastened in 54 places (6 original lines = 6; right and left stay to each of these 6 =  $2 \times 6 = 12$ ; small ditto, to each of the 6 original lines and to each of the 12 subsidiaries =  $18 \times 2 = 36$  — total 54). These lines not only

<sup>203</sup> Loat, *op. cit.*, p. xxi.

<sup>204</sup> *Ibid.*, *loc. cit.*

add greatly to the strength of the net, but by gathering up the edge of the net when the latter is being hauled in, they make the escape of fish much more difficult. The distribution of this specialized type of net is peculiar: it is employed on the Delta lakes and on the Blue Nile, but is rare or unknown in the Nubian or Egyptian Nile.

I have felt it excusable to speak at this length of modern cast nets because, despite the almost total lack of ancient representations of them, it is fairly sure that from at least the beginning of the dynastic age, if not from an even earlier period, they were employed by the ancient Egyptian fisherman. This belief is based upon the wide spread use of the circular cast net, and upon its special prominence in modern fishing all over the Levant, on the Nile, and on the Red Sea. If it be objected that its general employment in ancient Egypt is not compatible with the infrequency with which it is represented, I do not think one has to go far to account for the difficulty. The torsion of the body of the fisherman casting his net and indeed the whole character of the action, which could only be expressed satisfactorily by a delineation of foreshortened limbs, of straining muscles, and of flying ropes, was foreign to the ideals, as it was beyond the powers, of the Egyptian artist. This, in my opinion, is sufficient reason why in representing netting scenes the painter-sculptors of the Old Kingdom, preferred to depict the hauling of seines to the casting of small nets — quite apart from the fact that the seine was the more productive device, the crews which worked it could more easily be shown hauling on the ropes, than could the single fisherman engaged in flinging his cast net.

Fig. 67, a Middle Kingdom scene already cited in other connections, shows the hauling in of a circular or elliptical cast net. The archaeologist who published the tomb in which this scene occurs supposed that the fish in the net were being drawn toward the canoe by "the very clever fisherman Anqetsa" in order that they might be speared by Sebeknekht, the owner of the tomb, who occupies the middle of the canoe. This is in itself improbable, and when we see attached to the butt of Sebeknekht's weapon a line of which an attendant holds the end, the unsatisfactory nature of the explanation is not diminished. The scene is really a double one — Sebeknekht is on the lookout for large fish on his own account, while "the very clever fisherman" in the bows of the balsa draws in his catch. The net, as the artist has represented it, is unmanageable, but in a general way it is easy to understand how, in reality, the lines which the fisherman gathers in were arranged. The net is not shown as being over the fish, but this is of no significance — cf. the two Middle Kingdom scenes here given in figs. 163 and 165. One realistic and correct touch in the scene from the tomb of Sebeknekht is the manner in which the edge of the net, fitted not with floats, as the writer above referred to supposes,<sup>205</sup> but with sinkers,

<sup>205</sup> J. J. Tylor, *Sebeknekht*, p. 6.

bends down some of the water plants. The sinkers in their form resemble that shown in fig. 192 (cf. figs. 198, 199).

§ 11. **The double hand net.** In shallow ponds near Cairo the modern Egyptian sometimes makes use of a rectangular net, about 6 meters long and 1 m. 50 wide, attached at either end to a short pole (fig. 151). Such a net is worked by two men, one to each pole. The net "is spread out nearly upright with the lower edge on the bottom and is then dragged to the end of the pond, when it is quickly lifted out of the water, the lower end being raised, thus causing the fish to fall back into the net."<sup>206</sup> The use of a similar device was known anciently, though I have seen no representations in which the length of net is shown as being fitted with wooden poles (fig. 175). It was presumably from such a simple origin as this that the long seines were developed. The origin of the modern stake net, which appears to have been anciently used in Egypt,<sup>207</sup> may also be seen in this elementary contrivance.

§ 12. **The seine.** The use of large seine nets is a favorite theme of the Old Kingdom artists, who apprise us of there having been two forms of these nets, and several ways of working them.

The ancient Egyptian seine, as most commonly represented, consisted of a net of such considerable length as to require eight or ten men to haul it. In shape it was much like those employed in modern Egypt and in Europe. It consisted of a long strip of netting with parallel top and bottom, and with rounded or pointed ends (cf. figs. 161-164, 166-168). The netting did not always run to the very ends of the space enclosed by the top and bottom ropes, (fig. 169), for the ends of a long net are exposed to much rough usage. To each end of the net was affixed a drag rope by which the seine was hauled in. The drag ropes were either slipped through a becket at the end of the net (fig. 167), or they were knotted (figs. 164, 168, 169, 172 right).<sup>208</sup> It is just possible that they were in some cases made fast by a peg or billet passed through a loop (cf. fig. 171 right). In some instances one hauling rope was fastened with a knot, while the other was passed through a loop or becket (figs. 167, 168). In hauling home the net, the fishermen not only used their hands, but, very frequently, shoulder slings as well (e. g. fig. 161, 162, 169). These slings were, in most of those cases which can be made out, not twisted like the round ropes of the nets, but were flat plaited bands of four or more strands (fig. 174 — detail of one of the slings in fig. 161). How the slings were attached to the drag ropes

<sup>206</sup> Loat, op. cit., p. xxv.

<sup>207</sup> Aelian, op. cit., VI, 32, says that the thrissa, a fish found in Lake Mareotis, was caught by singing to it, and by the noise of shell clappers. The fish danced and leaped into nets spread to catch them. This is plainly a distorted account of a fish drive, in which stake nets would be the most natural goal towards which the fish were herded. They are so used today.

<sup>208</sup> One of these knots is shown in some detail in Steindorff, op. cit., pl. 117 (right of seine).

is not quite clear, but as they end in a sort of 'Turk's head' or other round knot at the bottom,<sup>209</sup> it may be surmised that they were caught in bights of the rope so as to jam when a strain was put on them (cf. fig. 162).

The bottom line of the seine was weighted to make it hang vertically when in use. The weights, as is indicated both by their form and their color, were usually made of stone until late times, when lead was also employed. The most usual shapes are those here shown in figs. 165, 178, 179, 183, 186, 189, and 192. Fig. 165 shows weights bound to the line of the net by a transverse lashing at either end; in figs. 178, 179 the lashing passes around the middle of the weight, where it was doubtless kept in place by a shallow groove such as is seen in the gritstone specimen from Gammai depicted in fig. 202. It is equally clear that the stone weight in fig. 186 was secured by cross lashings (cf. 164 and the sandstone specimen in fig. 204). The round or elongated weights in figs. 189, 192 were probably like the stone examples in figs. 193-199. What appear to be net weights of unusual form are the actual specimens in figs. 200, 201, 203. The former of these (figs. 200, 201) bears rudely scratched upon it a design which recalls the arrangement of the cords in the cast net shown in fig. 150.<sup>210</sup> With regard to some of the weights (figs. 195, 197, 198, 200, 201, and 203) figured in plate 21, Petrie has observed that they were probably reels used in net making.<sup>211</sup> Even supposing that by reels he means spacers, the identification, because of the nature of the objects in question, cannot be accepted. No lead weights are depicted on the monuments, for by the time they were introduced, the Egyptian artist was devoting his energies to mythological and religious scenes.<sup>212</sup> Actual specimens of lead weights, in the form of small plates or lumps bent over the bottom line of the net (figs. 160, 205, 207), or in the shape of thick rings, either twisted (fig. 206) or molded (fig. 208), are not infrequently found on Graeco-Roman sites in Lower Egypt, where the ring form has been preserved until modern times, being common in pottery among the Fayûm fishermen (fig. 209). The unspecialized forms of most of the weights above cited should warn the reader that whereas there is good reason to believe that they were employed for sinking nets, they may in some cases have served for quite different purposes.

The upper line of the seine was, of course, dressed with floats (figs. 161-166, etc.). These floats are in many cases so conventionalized as to make it impossible to divine

<sup>209</sup> Ibid., loc. cit.

<sup>210</sup> The design is a common one on neolithic loom weights and similar objects. For an example of it which can hardly be in any way related to fishing, see the ivory discoid published in W. M. F. Petrie, Tarkhan, London, 1914, pl. 2, fig. 14 = phot. pl. 1, 1205.

<sup>211</sup> Petrie, Hyksos and Israelite cities, p. 19.

<sup>212</sup> An exception ought perhaps to be made to this statement in favor of some lead weights from Kahun which Petrie (Kahun, Gurob and Hawara, p. 34) assigns to the XVIII Dynasty.



their nature (figs. 162-166, etc.), but in other instances they are more carefully represented. Thus the Middle Kingdom example given in fig. 184 was clearly a billet of wood lashed at its smaller end to the net rope. The floats in fig. 185, of the same period as the preceding, appear to be a pair of gourds such as are often used to support Egyptian nets at the present time. The commonest type of Old Kingdom float is more puzzling (figs. 176, 177, 180, 181, etc.). From the representations here given, and from several others in the tomb of Ti,<sup>213</sup> I am of the opinion that these floats were blocks of wood, roughly conical or pyramidal in shape, fastened apex down to the net rope by cords crossed over them at right angles (figs. 177, 181) and tied under the net rope (fig. 176). Sometimes a single cord passed over the top of the float, (fig. 191; not quite correct — see note under Lepsius in List of Illustrations). Floats of the characteristic Old Kingdom form survived — at least in the representations — into New Kingdom times (cf. figs. 182, M. K; 166, N. K.). At the present day wooden floats are used in Egypt, but they are commonly of the tubular form shown in fig. 190.

The manner in which nets were attached to their ropes is illustrated by a number of actual specimens preserved in different museums. Unhappily, I am only able to cite in this connection the rather unsatisfactory wood-cut of Wilkinson's here reproduced in fig. 160. As nearly as can be made out from this illustration, the net ropes were laced with strings which caught up the edges of the net itself and bound it to the ropes. In the Middle Kingdom seine shown in fig. 165 the net appears to have been attached to its ropes by a thick cord wound round the latter, and run through the meshes on the edge of the former.

It was remarked above that two kinds of seine are figured in the monuments. In addition to the common type (figs. 161-163, etc.) already described, another, though much rarer, form was already in use in the Old Kingdom. This second form of net is provided in the middle with a deep pocket in which, as the net is drawn, the fish gather (fig. 173). Seines of this type, measuring about 100 m. in length, are used by the modern fishermen of the Fayûm.<sup>214</sup>

Nets were sometimes worked from large rafts or boats, as in the case just cited. To understand that scene (fig. 173), it is necessary to suppose that the fishermen have made their way slowly across the water paying out their net, after which they have swept a great half circle with the end of the net in tow. When the bow man could pick up the other end of the seine, the hauling began. This is the moment the artist has chosen to represent: the net, only the top line of which is visible, and which is obviously out of

<sup>213</sup> Steindorff, *op. cit.*, pl. 115; cf. *Ibid.*, pl. 117.

<sup>214</sup> Loat, *op. cit.*, p. xxxvi, fig. 18.

proportion to the papyrus raft of the fishermen, is just being hauled home. In figs. 172, the fishermen hauling on one end of the seine are on the shore; the other end is being manipulated by men in a wooden boat — an unusual feature — in the stern of which, with one hand placed upon the steersman's head, stands a dwarf. The size of the boat, despite the small number of the fishermen, suggests that the net here is a very long one. The operation depicted may have been one of several which are today well known: the simplest explanation is that illustrated by the diagram given in fig. 149. The first step there shown is the paying out of the net (left). The seine is taken out from the bank, where one end of it is held. When the net has been all paid out, the boat's crew bring their end to the bank at some distance from the place where the other extremity is held (middle). This is the stage represented in fig. 172. In modern practice the boat's crew generally land to haul their end (fig. 149, right). In fig. 171 practically the same maneuver has been executed: the net has been led out by the two men on the papyrus raft, and swung back to the bank where, with the assistance of the boatmen, it is being drawn ashore. Usually the Egyptian seining scenes represent the nets as being hauled to the banks by two crews standing on the shore. To explain such scenes is impossible, for they may represent the last stage in the operation just described, or the drawing of a back-water after the manner indicated in fig. 210. They may also depict the end of such an operation as that illustrated in fig. 211. There the net, folded on the bank, has been towed across a canal, (right), on the opposite side of which the boat's crew has landed. The net, stretched across the canal, has been drawn by the men holding its ends (2nd and 3rd positions from right) for some distance, when the men hauling on the nearer end halted, allowing the boat's crew on the other bank to go on for some distance further. To the end held by the boat's crew two ropes are bent: one is carried along by the boat's crew, the other is held by the men on the hither bank. When the latter party halts and holds its end of the net stationary, some of their number lead forward this rope. On this they begin to haul, while the boat's crew on the opposite bank pays out their line (4th position from right). Eventually the boat's crew relinquish their rope, and their end of the net is then rapidly drawn to the hither bank of the canal (5th position). I suspect that the differentiation between the two ends of some of the ancient seines — e. g., fig. 167, 168 (both from the same net) — may be due to their having been worked in this manner. The end held on the hither bank would then naturally be finished off as in fig. 168, while through the loop (fig. 167) would be passed the line or lines held by the boat's crew and those who drew that end home to the bank.

An operation which seems more involved than those just described is represented in a New Kingdom tomb at Thebes. There, one end of a long net has been turned into the curve of its middle part in a manner which tempts me to accuse the artist of having

misrepresented his subject. That this may have been the case seems further to be indicated by the way in which the other end of the net is being manipulated, but there are one or two realistic touches in the painting which make it possible that the meaning of the scene, to one better acquainted than myself with seining methods, might be plain.<sup>215</sup>

After use, nets were spread out, or, as in fig. 170, looped up on palings to dry.

For the manufacture of nets we are not over well documented, but netting needles of various forms, and ranging in date from late predynastic to Roman times, have been found in Egypt, where on the ancient monuments there occur, though only occasionally, net-making scenes. The oldest needles are of a very simple type — they consist of a flat piece of bone, pointed at each end, and pierced in the middle (fig. 233). In a modified form, where the eye is nearer to one end of the needle than to the other, this type of implement is found in bronze in late times (fig. 242). At the same late period use was made of a bronze type without an eye, but with a fork at one end (figs. 237, 241)<sup>216</sup> but commoner than this was the more usable implement, also of bronze, in which each end was forked, as in fig. 234. In this example the ends are in planes nearly at right angles to each other: earlier double-forked types have the ends in the same plane (fig. 239, 240). In late times a type strongly resembling one generally employed in modern Europe makes its appearance (fig. 238 — bronze). The essential difference between the ancient and the modern implements in this case lies in position of the tongue within the open end: instead of projecting toward the point of the netter from the back edge of the opening, it occupies a diametrically opposite position.

From the XVIII Dynasty onwards simple netters of bone like those shown in figs. 235, 236 are not infrequent. In the majority of cases the implements of this form are pointed at one end and rounded at the other, but in a few instances the unpointed end has the more convenient fish tail form seen in fig. 236. The type with one rounded end occurs in Nubia: several were found in graves of Roman date at Gammai. In addition to needles of bone and bronze, use was made anciently, as today, of wooden netting tools as well.<sup>217</sup>

The twine from which nets were made was prepared from papyrus and from other vegetable fibers. In fig. 227 a man is seen spinning the threads which another winds for use on a double forked needle. Fig. 157 gives a similar scene from the XVIII Dynasty

<sup>215</sup> See Wilkinson, *op. cit.*, vol. 2, p. 102, fig. 361 (top). This reproduction seems to me rather better than a later one published by U. Bouriant, *Tombeau de Harmhabi* (*Mém. . . de la mission archéol. franç. au Caire*, vol. 5, fasc. 3, Paris, 1893, pl. 6).

<sup>216</sup> E. A. Gardner, *Naukratis*, pt. 2, p. 28, describes a small spoon-shaped object and the needle here shown in fig. 237 as "apparently medical implements".

<sup>217</sup> Petrie, *Kahun, Gurob and Hawara*, p. 28.

tomb of Paheri. The artist, of a naturalistic turn, shows us an old fisherman mending a hand net, the end of which he grips with his toes, while a lad preparing twine stands before him rubbing his spindle on his thigh. Both poses are frequently seen among the modern Egyptian peasantry; the former of them is repeated in fig. 158. The net mender in this latter representation holds in his right hand an implement (fig. 159) which, were the scene not a little damaged, could probably be identified with certainty with one of those forms described above.

Actual specimens of twine which was apparently used for net making have from time to time been found by excavation. Thus, at Kahun, a site which seems anciently to have depended largely on fishing, Petrie discovered balls of two-strand and of three-strand string belonging to the XII Dynasty, as well as fragments of nets "having  $\frac{1}{2}$  to  $\frac{3}{4}$  inch [1.2 to 1.9 cm.] mesh; the smallest mesh" being  $\frac{1}{4}$  inch [ca. 0.3 cm.] square.<sup>218</sup> The fineness of this mesh tallies perfectly with the small size of some of the ancient needles. The same site also yielded some fragments of XVIII Dynasty nets, having meshes ranging from 0.5 to 1.5 cm., and made of coarser twine than the earlier examples.<sup>219</sup>

The use of seines and similar large nets is today found all over the Delta, as well as in other parts of Egypt, and a cursory examination of Loat's report on Nile fishing will convince the reader that both in the design of their nets and in the manipulation of them the modern Egyptians show a high degree of ingenuity and skill. This is not surprising when one considers how favorable to the development of seines and similar nets are the waters of the Nile, especially in lower Egypt, and when one remembers that the long net has been from ancient times employed throughout the Mediterranean. This last point might suggest that in its origin the seine was Mediterranean, were it not that devices of this simple description have been independently evolved in many parts of the world, and the use of the long fish net is widely known in modern Africa. In the Lake Region, for example, seines are frequently employed, some of the nets requiring as many as twenty men to handle them.<sup>220</sup>

§ 13. **Fish curing.** Fish were usually carried, after being caught, either in baskets (figs. 32, 212) or — if they were of great size — slung on poles (fig. 213 — three fish slung on a steering paddle). Occasionally a large fish was strung through the gills or jaw and carried over the shoulder (fig. 212), and sometimes, in New Kingdom scenes, they are represented as being strung together through the gills — a practice familiar to all of us. In figs. 214, 215, taken from an exceptional scene of the Middle Kingdom, fish are seen being carried on flat wicker offering trays.

<sup>218</sup> Ibid., loc. cit.

<sup>219</sup> Ibid., p. 34.

<sup>220</sup> A. Werner, loc. cit. Cf. J. Roscoe, *The Baganda*, p. 392 sq.

Fish were usually dressed with the aid of a broad splitting knife (figs. 218, 219, 223) the form of which strongly resembles that of some of the predynastic and later flint knives.<sup>221</sup> In some cases a splitting knife or chopper approaching a quadrant form is represented (fig. 222). Knives of this description might be mistaken for scalers did we not notice that in the paintings showing their use, the dressers hold their fish in the usual manner, and not heads towards them, which would be the natural position for scraping. It is, however, tolerably certain that fish were sometimes scaled. The protodynastic shell "notched as a scraper, probably for cleaning fish",<sup>222</sup> found by Petrie at Abydos and here shown in fig. 216, is at least admirably suited for this purpose. The same is true, though perhaps to a less degree, of the small shell set in a reed, seen in fig. 217.<sup>223</sup>

Fish were sometimes cleaned as soon as caught (fig. 126), but more usually they were dressed ashore. They were grasped by the tail and laid on a block (fig. 223), or on a flat (figs. 220, 226) or sloped (figs. 221, 222) dressing board.<sup>224</sup> Different fish were variously split. Generally they were cut down the back, as the usual position (belly down) on the dressing boards shows (figs. 221, 222, 226). They were then gutted, and laid flat or hung up to dry,<sup>225</sup> the heads and back-bones not being, as a rule, removed (figs. 213 right, 224). The use of salt in fish curing, though in later times certainly known,<sup>226</sup> was probably no more common in ancient Egypt than it is in modern India and Africa. In some instances fish were opened up the belly instead of down the back (fig. 223, 225), and occasionally one finds representations of cured fish which have been very carefully dressed, having been split, drawn, and boned, even to the removal of the larger fins (fig. 222 top).

In fig. 226 is represented an Old Kingdom fish curing scene of especial interest. On the left a man squats at his dressing board splitting a fish. The kneeling man in front of him is broiling another (undressed) over a small brazier, the flames of which he quickens with a fan (this latter, which is like the fan seen in text fig. C, is not to be mistaken, as might happen through the similarity in form, for a splitting knife of the type shown in

<sup>221</sup> Cf. the XII Dyn. fish knife in fig. 218 with the pictured flint knives of the same period in Newberry, Beni Hasan, pt. 1, pl. 11.

<sup>222</sup> Petrie, Abydos, pt. 1, p. 24.

<sup>223</sup> Idem, Illahun, Kahun and Gurob, p. 12. Petrie, it is only fair to observe, contents himself with the saying that the purpose of this implement is "quite unknown."

<sup>224</sup> Identical or similar boards were used for dressing wild fowl: for an example cf. G. Maspero, *Tombeau de Nakhti* (Mém. . . . de la mission archéol. franç. au Caire, vol. 5, fasc. 3, Paris 1893, p. 48, fig. 4).

<sup>225</sup> In the N. K. seining scene referred to above in n. 215 fish are suspended from the rigging of the boat to dry. Cf. the *ραπίχη Αλυβρίας* of Pollux, *Onomasticon*, VI, 48, which may have been either pickled in brine or dry salted.

<sup>226</sup> Cf. the preserved fish mentioned in N. K. times; Breasted, *Ancient records*, vol. 4, § 243, 394. Herodotus, II, 77, speaking of the preparation of fish, says that the Egyptians eat many kinds raw, "either salted or dried in the sun"; all other sorts, except the sacred ones, were either roasted or boiled. Elsewhere (II, 92), when speaking of the Delta marsh men, he says: "Some of these folk live wholly on fish, which are gutted as soon as they are caught and then hung up in the sun: when dry they are used as food."

fig. 222). To the right of the cook are seen two men working up round balls of shredded fish. The first of these men has before him a jar which presumably contains either chopped fish or oil; the second man holds in each hand a short stick with which he is represented either as giving the balls their final shape, or as turning them over in the sun. The preparation of such fish balls was anciently common among the Ichthyophagi near the mouth of what is now the Persian Gulf. There the rude tribes drew fish from the sea in nets whereof the cords were made of palm bark. They cured their fish in ovens, or ate them raw, and also, as Strabo tells us, made cakes of fish dried in the sun and then pulverized, the powder being worked up into cakes with real flour.<sup>227</sup> The Egyptian scene in fig. 226 may be illustrated by a quaint description, given by an old traveler, of the preparation of fish on the Gambia:—

“The river being fallen, the women flock to it in abundance, and are exceedingly busy in catching small fish like sprats, which they dry and keep by them as a dainty dish, call’d Stinking Fish. As soon as they catch them (which is in a basket like a hamper, by putting a little ball of paste at the bottom of it, and holding it under water a little while, and then raising it gently) they lay them upon a clean spot of ground to dry; after which they pound them in a wooden mortar to a paste, then they make them up in balls of about three pounds each, and so keep them all the year round. A small quantity of it goes a great way. . . .”<sup>228</sup>

Something not unlike this “dainty dish” finds its way to our own tables as ‘Bombay duck’, probably the closest parallel to the dried fish balls or cakes of ancient Egypt which civilized man is called upon to encounter. It should be borne in mind that primitive folk have not those nice ideas about the soundness of dried foods which obtain among ourselves. The writer just quoted remarks of the natives of Gambia that “fish dried in the sun, or smoaked, is a great favorite of theirs; but the more it stinks, the more they like it.”<sup>229</sup> This observation might be made with equal truth for the greater part of modern Africa, and was, we may suppose, anciently applicable to Egypt unless there the consumers were in this respect of an exceptionally squeamish turn.<sup>230</sup>

The fisherman disposed of their catches in the small markets at which, as today at the local “aswāk”, the Egyptian peasant has from time immemorial sold and obtained his commodities. I have already cited an Old Kingdom representation of one

<sup>227</sup> Strabo, XV, ii, 2 (p. 720 Cas.).

<sup>228</sup> F. Moore, *Travels into the inland parts of Africa . . . to which is added Capt. Stibbs's voyage up the Gambia*, London, 1738, p. 139.

<sup>229</sup> *Ibid.*, p. 109.

<sup>230</sup> In addition to sun-cured fish, the Egyptians also appear to have used dried roe as well — at least, what looks like drying roe is figured among the split fish in the tomb of Ti; Steindorff, *op. cit.* pl. 115, top. On this whole question of fish curing cf. Klunzinger, *op. cit.*, p. 307 sq.

of these markets, in connection with the fishbooks a vendor is there shown offering for sale (fig. 229 : in the same scene a woman is depicted chaffering with a fisherman who kneels before his basket (fig. 228). The length of the mutilated text which accompanies this scene suggests that a lively discussion is taking place with regard to the price the vendor asks.<sup>221</sup> A scene in a New Kingdom tomb shows an elderly fisherman — apparently a comic type — emptying his fish bag into a woman's basket, while with another woman a younger man appears to be negotiating an exchange of fish cakes against some unspecified commodity.<sup>222</sup> In this latter scene the women are the vendors and the fishermen the buyers.

§ 14. *The fishermen.* When Herodotus, in describing the different grades of Egyptian society, begins with the priests and ends with the boatmen,<sup>223</sup> he is consciously passing from the higher to the lower orders in the population, and if among the boatmen he included, as is only reasonable to suppose, the Egyptian fisher folk, the humble position he assigns them is amply confirmed by other evidence than his. The unsavory character of the fisherman's work was, as may be gathered from one or two of the citations in § 2 of this paper, a byword among the Egyptian scribes. In the Middle Kingdom document from which the citations in question were drawn, the callings of the fowler and of the fisherman — callings which, as will presently appear, were intimately connected — are mentioned after an ironical review of other common livelihoods, and the relative place they occupy in the composition is as significant as that assigned to the boatmen in the account of Herodotus. The Egyptian text in question is obscure and difficult, but its tenor is unmistakable: "I tell thee", says the scribe, "the catcher of fish suffers more than any craftsman.... He is mixed up with crocodiles.... When the papyrus clumps give way (?), then he shouts 'Help!'.... When a father casts his net on the waters, his fate is in the hands of God (?). In truth, there is no calling which is not better than it...."<sup>224</sup>

As early as the Old Kingdom the fisherman's lowly position led to his being regarded as more or less of a butt. Such humorous presentations as that in fig. 124, where an angler has lost his balance in his endeavor to land one of the most worthless fish to be found in the Nile (a *Tetrodon fahaka*) may or may not be significant of the manner in which the fisher folk were viewed by the upper classes: what does, however, unquestionably reflect that attitude is the popularity of those scenes in which, from the Old

<sup>221</sup> Cf. Maspero, *Sur une représentation de bazar égyptien*, p. 255.

<sup>222</sup> Schiel, *op. cit.*, p. 610 interprets this scene differently, and, as has been pointed out in n. 178, incorrectly in at least one respect.

<sup>223</sup> Herodotus, II, 164.

<sup>224</sup> Maspero, *Du genre épistolaire chez les Égyptiens, etc.*, p. 65 sqq.

Kingdom onwards, the marsh men are shown engaged in brawls. Doubtless the lively realism of these scenes contributed to their popularity, but they would not have endured so long nor been so common had they not accorded with the aristocratic conceptions of the habits of the fishermen. So frequent are these scenes that an English archaeologist has remarked that "apparently two boats never met without a more or less playful combat with the long punting-poles, the object being to push the foremost defender of a rival boat from his insecure position on the prow."<sup>235</sup> This is hardly an exaggeration, but the "playful" nature of the combats may be questioned, since they probably arose either from feuds due to encroachments on fishing-grounds, or to an over-indulgence in beer. That the last cause was not an unknown one appears from those representations in which the fishermen are seen carousing and fighting, or in which the combatants appear decked with flowers in token of their merrymaking.<sup>236</sup> In short, the quarrels of the boatmen, while humorously regarded by the upper classes, seem to have been on a plane with those feuds which, a century ago, were not uncommon between one Egyptian hamlet and another — feuds which occasionally led to loss of life, and which were characteristic of a brutal and backward element in the population.

While the general social position of the fishermen is clear enough, we are — nor is it surprising — ill-informed as to the details of their daily lives. That they spent much of their time in fowling as well as in fishing is only natural, for the waters by which they lived were anciently, as today, the haunt of thousands of wild fowl, which are most abundant at that very season of the year when the fisheries are least remunerative. The close association between fishing and fowling is not only established by a consensus of the monuments (cf. here fig. 130), but by the repeated instances in which the followers of the two callings are mentioned together almost as one and the same body.<sup>237</sup> It is not, therefore, surprising to find in Egyptian a word (*wh̄t*) signifying "to catch fish or water fowl".<sup>238</sup>

The dress and habitations of the fishermen were of the simplest, but do not appear to have differed notably from those of the peasantry at large. They dwelt in small cabins of reeds, the use of which survived among the Delta herdsmen into Roman times,<sup>239</sup>

<sup>235</sup> Davies, *Deir el Gebrāwi*, pt. 2, p. 6. For scenes of boatmen fighting, see *Ibid.*, pl. 5; *Ibid.*, pt. 1, pl. 4; Paget and Pirie, *Ptah-hetep*, pl. 32 = Davies, *Ptahhetep*, pt. 1, pl. 21; Newberry, *Beni Hasan*, pt. 2, pl. 4, bottom; Blackman, *Meir*, pt. 2, pl. 4, bottom.

<sup>236</sup> Cf. Davies, *Ptahhetep*, pt. 2, pl. 14; *Ibid.*, pt. 1, pl. 21 (key plate); pl. 25, 26.

<sup>237</sup> Cf. Budge, *Book of the Dead*. Text, c. CLIII, A, *passim*, = p. 390 sqq.; Breasted, *op. cit.*, vol. 4, §§ 289, 283, etc. In the tomb of Urarna (O. K.), the "superintendent of the fishermen" is seen advising the fowler at their work; Davies, *Sheikh Saïd*, pl. 12.

<sup>238</sup> Griffith, *Beni Hasan*, pt. 3, p. 13.

<sup>239</sup> Diodorus Siculus, I, 43 (vol. 1, p. 52 Wess.).



and they are generally represented as naked or as very scantily clad in an abbreviated kilt or loin cloth.

It is possible that in some districts the fisher folk may have been possessed of cattle. Cattle are regularly depicted as being cared for by peasants whose appearance is identical with that of the fishermen, and if the latter were not the owners of the herds, it must be surmised that the cattle were placed in their charge by the nobles. What is more certain is that the fishers and fowlers had at least one domestic animal in the dog — the long barreled hounds seen in text fig. C and in fig. 147.

Ethnically considered, there can be little doubt but that among the Egyptian fishermen, especially among such of them as dwelt in the Delta, one of the oldest strains in the country was perpetuated. A comparative study of the terminology of Egyptian fishing and fowling might throw some light on the question as to which of the components of the historic Egyptian predominated in the marsh man. The material for such a study, as I remarked at the beginning of this paper, lack of the proper books has prevented me from collecting: it is only fair to add, however, that even if the material in question lay ready to my hand, only a philologist more practised than myself would be able to cope with it. The Egyptian monuments, while they distinguish clearly between the facial types of the peasantry and of the nobility, give us no conclusive information on this ethnic question: a hint which might perhaps be followed up with advantage is however afforded by a New Kingdom scene, details of which are here partly reproduced in figs. 155, 156, 157. The peculiar headdresses of the fowler-fishermen in these representations have, I believe, no closer parallel than the headdresses of the suppliant Libyans depicted in the V Dynasty tomb of Sahure. Whether the likeness here is fortuitous, which is not easy to believe, or a really significant one, the New Kingdom scene may merely depict some special group of serfs or captives belonging to the owner of the tomb, and so may not bear at all on the racial character of the marsh men. It is to be observed that the latter do not appear with such headdresses on the Old Kingdom reliefs which were practically contemporary with the Sahure sculptures.

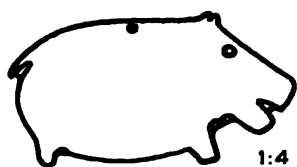
§ 15. **Conclusion.** The relative chronology of the various fishing implements is indicated graphically in the table on pl. XXVI (fig. 254). In the left hand column of the table are the different periods; in col. 1 is noted the occurrence of pisciform vases; col. 2 is for the bone, horn, or ivory harpoons; cols. 3, 4, bronze harpoons; col. 5, bidents; col. 6, unbarbed copper hooks; col. 7, barbed ditto; col. 8, flange-stop hooks; col. 9, weels; col. 10, holed netters; col. 11 twy-pronged netters. In cols. P, N, L (at the right) I have indicated the fish consumption, as discussed above in the first part of this paper (§§ 2 and 3), with regard to the priesthood (P), the nobles (N), and the peasantry (L) — the consumption of fish among the latter has, as nearly as can be divined, been unbroken

from the earliest period. From the table a number of points are apparent — e. g. the beginning of the Middle Kingdom is marked by a return of the fish-shaped vases, by the introduction of the symmetrically two-barbed spear, of the barbed hook, and of the two-pronged netter, as well as by a decline of that aversion to fish which was displayed by the Old Kingdom nobility.

The importance of such changes it is not easy correctly to estimate. Their significance, when they are considered by themselves, appears to be negligible, but, when correlated with other archaeological phenomena of the same period, is much increased. The culture of the early Middle Kingdom, when placed in perspective, with that of the Old Kingdom for background, exhibits peculiarities which suggest that ethnical, as well as developmental, changes took place in Egypt between the end of the VI and the beginning of the XI Dynasties. It is not however necessary to postulate, during this obscure Intermediate Period, a hostile invasion into the Nile Valley, though it cannot be denied that the collapse of the Old Kingdom must have invited foreign attack. What really took place may have been in the nature of a partial recrudescence of elements in the population which, from the beginning of the dynastic period to the economic breakdown of the Old Kingdom, had been in a state of subjection and repression. Such a recrudescence would almost inevitably have followed if, as was earlier suggested in this paper, a comparatively small body of warlike cattle-owners had obtained the mastery of the Nile Valley near the close of the predynastic age. The triumph of such an element over the ruder predynastic people would explain the character of the Old Kingdom, with its centralized government and oppressive aristocracy. Such an element would inevitably lose its strength unless constantly recruited from without: it would interbreed, and would adopt many customs and devices from the subject people. From the latter there would soon arise a class which by association with the conquerors would become acquainted with their ways of life and their culture, and as the dominant power declined, this new class would eagerly grasp at the power which the rulers could no longer withhold. There would result a time of trouble and dissention such as we know the Intermediate Period to have been, and from such a confusion there would in the most natural manner emerge the feudalism characteristic of the Middle Empire.

The new age would in many respects be indistinguishable from that which had preceded it, but we should expect the change to be marked by cultural phenomena arising from the re-establishment of the old stock. Such phenomena are not lacking; it is enough here to cite the sudden appearance of the s3 amulet as a common ornament, and of such divinities as Thouêris, whose aspect and whose colorless name (T-wr-t = "the Great One" — fem.) alike relate her to the old primitive stock. The hypothesis outlined above might be supported with other and weightier evidence, but as it is here





1 P

1:4



2 P

1:4



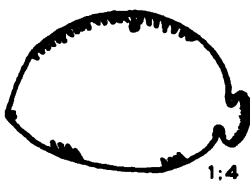
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1:4



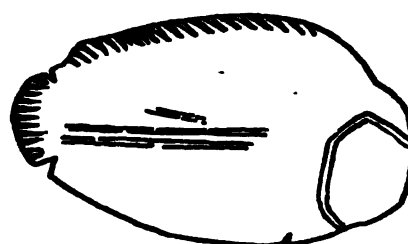
4 P

1:4

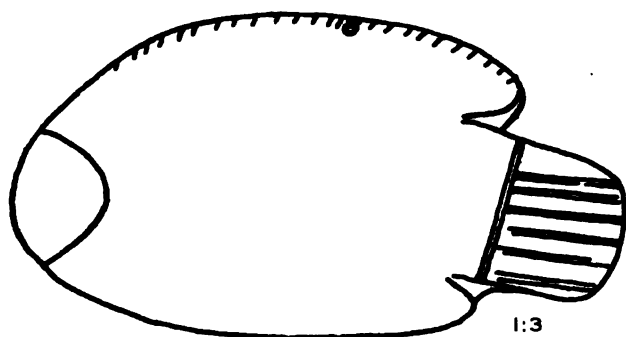


5 P

1:4

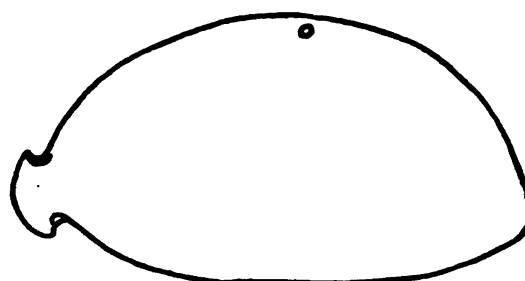


6 P



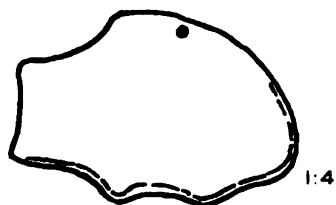
7 P

1:3



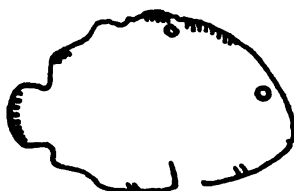
8 P

1:3



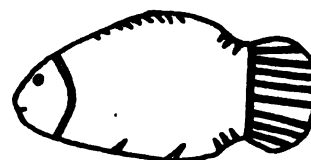
9 P

1:4



10 P

1:4



11 P

1:4



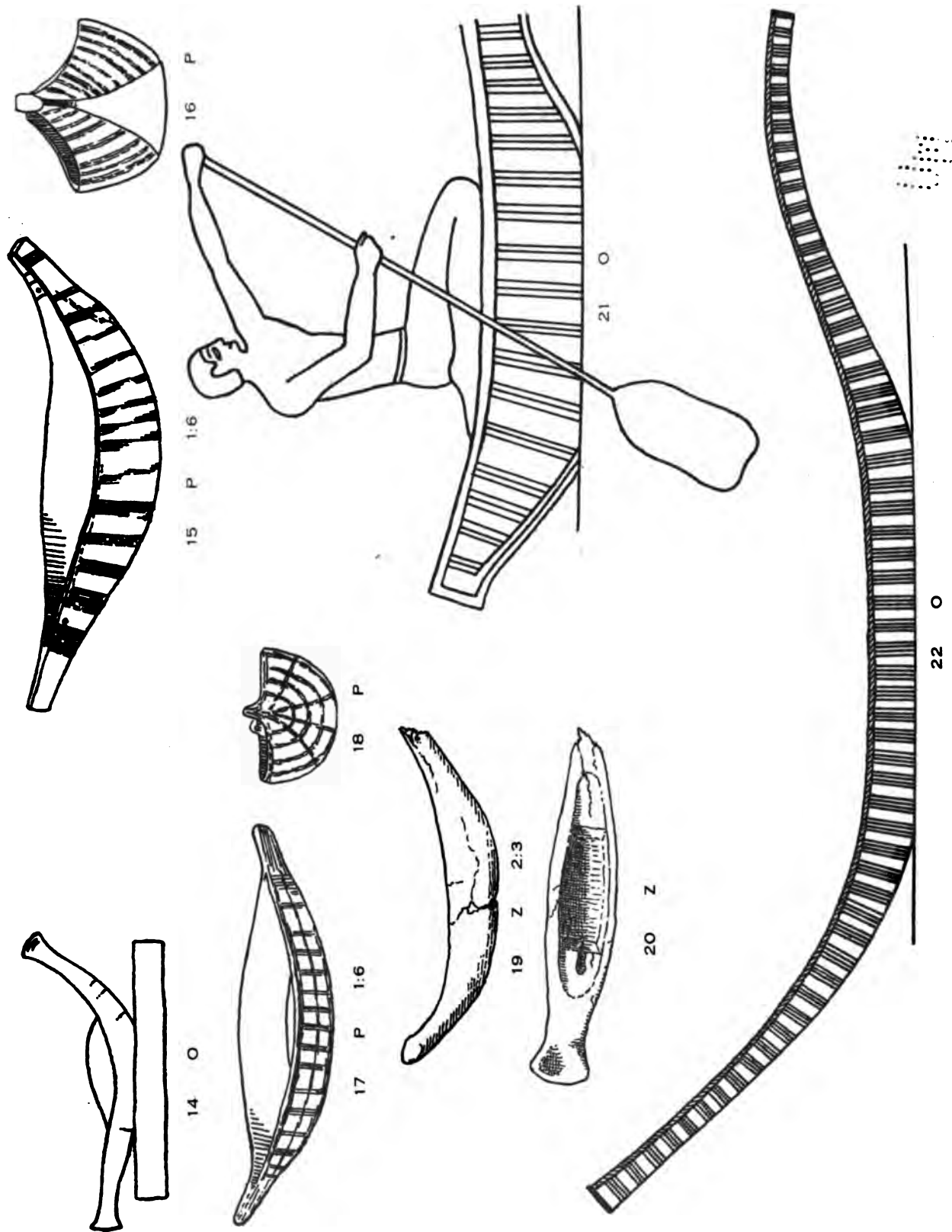
12 P



13 P

1:6

44



of these markets, in connection with the fishhooks a vendor is there shown offering for sale (fig. 229); in the same scene a woman is depicted chaffering with a fisherman who kneels before his basket (fig. 228). The length of the mutilated text which accompanies this scene suggests that a lively discussion is taking place with regard to the price the vendor asks.<sup>231</sup> A scene in a New Kingdom tomb shows an elderly fisherman — apparently a comic type — emptying his fish bag into a woman's basket, while with another woman a younger man appears to be negotiating an exchange of fish cakes against some unspecified commodity.<sup>232</sup> In this latter scene the women are the vendors and the fishermen the buyers.

§ 14. **The fishermen.** When Herodotus, in describing the different grades of Egyptian society, begins with the priests and ends with the boatmen,<sup>233</sup> he is consciously passing from the higher to the lower orders in the population, and if among the boatmen he included, as is only reasonable to suppose, the Egyptian fisher folk, the humble position he assigns them is amply confirmed by other evidence than his. The unsavory character of the fisherman's work was, as may be gathered from one or two of the citations in § 2 of this paper, a byword among the Egyptian scribes. In the Middle Kingdom document from which the citations in question were drawn, the callings of the fowler and of the fisherman — callings which, as will presently appear, were intimately connected — are mentioned after an ironical review of other common livelihoods, and the relative place they occupy in the composition is as significant as that assigned to the boatmen in the account of Herodotus. The Egyptian text in question is obscure and difficult, but its tenor is unmistakable: "I tell thee", says the scribe, "the catcher of fish suffers more than any craftsman. . . . He is mixed up with crocodiles. . . . When the papyrus clumps give way (?), then he shouts 'Help!' . . . When a father casts his net on the waters, his fate is in the hands of God (?). In truth, there is no calling which is not better than it. . . ." <sup>234</sup>

As early as the Old Kingdom the fisherman's lowly position led to his being regarded as more or less of a butt. Such humorous presentations as that in fig. 124, where an angler has lost his balance in his endeavor to land one of the most worthless fish to be found in the Nile (a *Tetrodon fahaka*) may or may not be significant of the manner in which the fisher folk were viewed by the upper classes: what does, however, unquestionably reflect that attitude is the popularity of those scenes in which, from the Old

<sup>231</sup> Cf. Maspero, *Sur une représentation de bazar égyptien*, p. 255.

<sup>232</sup> Schiel, *op. cit.*, p. 610 interprets this scene differently, and, as has been pointed out in n. 178, incorrectly in at least one respect.

<sup>233</sup> Herodotus, II, 164.

<sup>234</sup> Maspero, *Du genre épistolaire chez les Égyptiens*, etc., p. 65 sqq.

Kingdom onwards, the marsh men are shown engaged in brawls. Doubtless the lively realism of these scenes contributed to their popularity, but they would not have endured so long nor been so common had they not accorded with the aristocratic conceptions of the habits of the fishermen. So frequent are these scenes that an English archaeologist has remarked that "apparently two boats never met without a more or less playful combat with the long punting-poles, the object being to push the foremost defender of a rival boat from his insecure position on the prow."<sup>235</sup> This is hardly an exaggeration, but the "playful" nature of the combats may be questioned, since they probably arose either from feuds due to encroachments on fishing-grounds, or to an over-indulgence in beer. That the last cause was not an unknown one appears from those representations in which the fishermen are seen carousing and fighting, or in which the combatants appear decked with flowers in token of their merrymaking.<sup>236</sup> In short, the quarrels of the boatmen, while humorously regarded by the upper classes, seem to have been on a plane with those feuds which, a century ago, were not uncommon between one Egyptian hamlet and another — feuds which occasionally led to loss of life, and which were characteristic of a brutal and backward element in the population.

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The new age would in many respects be indistinguishable from that which had preceded it, but we should expect the change to be marked by cultural phenomena arising from the re-establishment of the old stock. Such phenomena are not lacking; it is enough here to cite the sudden appearance of the s3 amulet as a common ornament, and of such divinities as Thouêris, whose aspect and whose colorless name (T-wr-t = "the Great One" — fem.) alike relate her to the old primitive stock. The hypothesis outlined above might be supported with other and weightier evidence, but as it is here

mentioned only in connection with Egyptian fishing, and as I do not propose to stray too far from that subject, what has been said must suffice. It is, however, my duty to warn the general reader that the theory just advanced is still to be regarded as an untried one.

A word may be said, by way of conclusion, as to the ethnographic position of Egyptian fishing as a whole. The material just surveyed, when compared with that of Bronze Age Europe, at once appears to be so different in character as to be clearly independent of it: even at a late period, for example, the Egyptians appear to have remained ignorant of the trident and of the double fish hook. Neither does the hollow socketed harpoon ever appear to have been common — though it was apparently known — in the Nile Valley — absences comparable to that of the useful and easily traded bronze fibulae of Europe and the northern Mediterranean, objects which, though not unknown in Egypt, are none the less there of rare occurrence. Yet more noticeable than these discrepancies is the extremely simple character of the Egyptian fishhook at all periods — a simplicity which contrasts strikingly with the varieties of eyes, corrugations, etc. employed for stops in the hooks of Europe, where we also find the *hamus catenatus* and other specialized rigs.

If we turn to the fishing gear employed today on the lakes and rivers of Africa the parallelism is at first glance closer, but there too the modern primitives are found employing numerous devices unknown in ancient Egypt. This is true not only of such seemingly local weapons as the bow-shaped harpoon of the Upper Nile, but of others, like the gaff, the use of which is widespread throughout the Nile Basin.<sup>240</sup> The absence in Egypt of the custom of drugging fish, so common in the Bantu area, is easily to be explained by the lack of proper poisons, but the absence of many forms of large hand nets, of the gaff, and of several other devices, is remarkable.

These differences cannot on the whole be said to be much greater, however, than those which obtain between ancient and modern Egyptian contrivances for taking fish, and I would therefore characterize Egyptian fishing as an art very largely of Nilotic growth. The early origin of fishing implements, and the very moderate development of all of them except nets at a later period, is paralleled by the history of other Egyptian artefacts — e. g., of celts and other copper tools, which, having reached a tolerable degree of perfection at a remote period, were for centuries copied with practically no change. The fisher folk themselves were less exposed to outside influences than many other elements in the country, and whereas the introduction of the copper hook was unheralded by the use of curved bone or shell prototypes, and the XII Dynasty saw some advances in Egyptian fishing gear, I believe that in the present state of our knowledge we must regard the art we have examined

<sup>240</sup> Schweinfurth, *Artes Africanæ*, pl. 2, fig. 16 (Dyur); pl. 5, fig. 11 (Bongo); Werner, *op. cit.*, p. 192.

as one of indigenous growth. Whether or not this view, and the others I have ventured to express in this paper, are based on a just appreciation of the material at present available, the accumulation of further evidence will show.

## ADDENDUM

The above paper had gone to press before I had the pleasure of reading an article on Egyptian metallurgy by Petrie <sup>241</sup>—an article which I would earlier have received had it not been for the irregularity of the posts. Among the illustrations of the paper in question are two of harpoons. One <sup>242</sup> is of a form almost identical with that of the New Kingdom example here given in fig. 72; the other <sup>243</sup>, here shown in text fig. E, is a bilaterally barbed specimen of asymmetrical design, closely resembling the modern Dyur crocodile harpoon of fig. 84. Both specimens are of copper, and are referred, on grounds not stated in Petrie's paper, to the early predynastic period. That they may indeed belong to the latter part of that age is perfectly possible; but it is difficult to regard them as possessing such very high antiquity as Petrie attributes to them.<sup>244</sup> Therefore, as I am unacquainted as yet with the arguments by which they have been dated, I must rest content here to refer the reader to Petrie's valuable little paper, and to add to the other drawings accompanying this present article the text fig. E.

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CAMBRIDGE.

<sup>241</sup> W. M. F. Petrie, 'The metals in Egypt' (Anc. Egypt, 1915, pt. 1, p. 12-23).

<sup>242</sup> Ibid., p. 13, fig. 2.

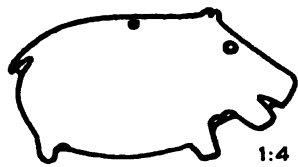
<sup>243</sup> Ibid., p. 13, fig. 3.

<sup>244</sup> Reisner, op. cit., p. 316.

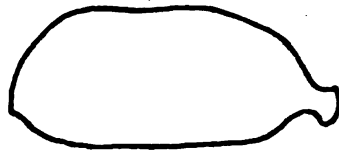


Text fig. E.

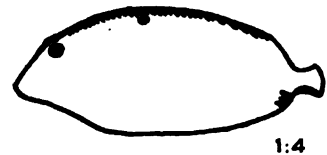




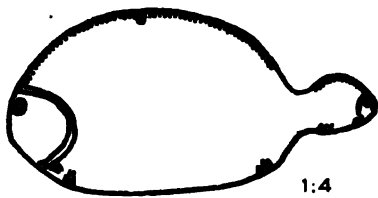
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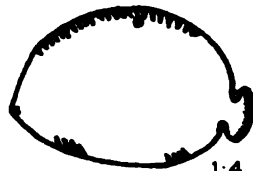
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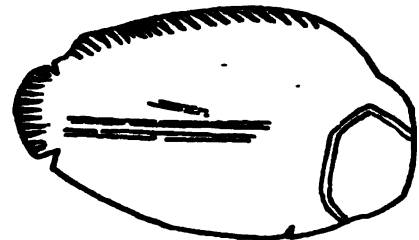
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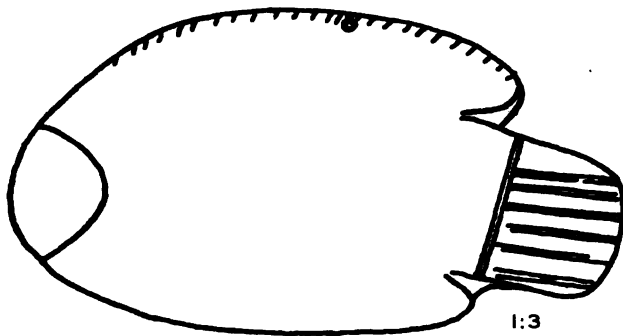
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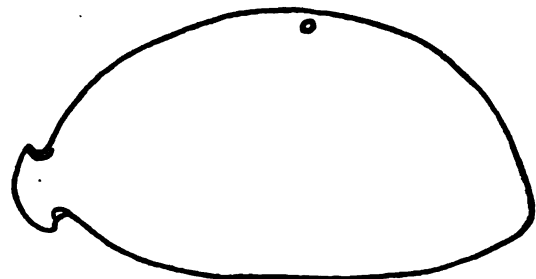
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6 P

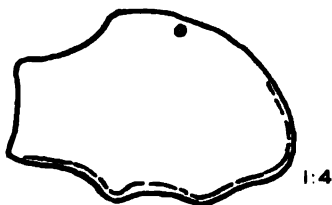


7 P



8 P

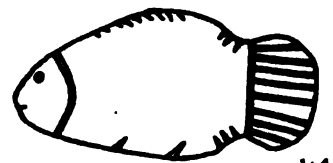
1:3



9 P



10 P



11 P

1:4



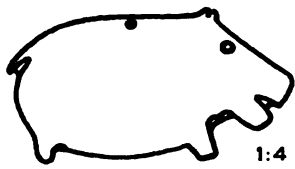
12 P



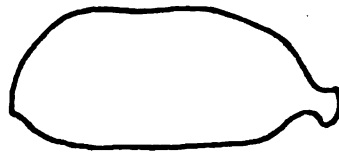
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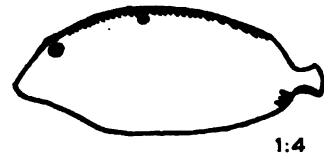




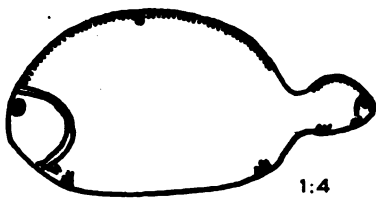
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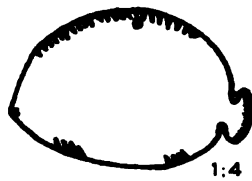
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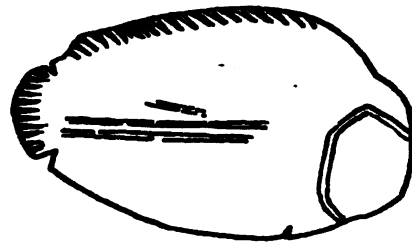
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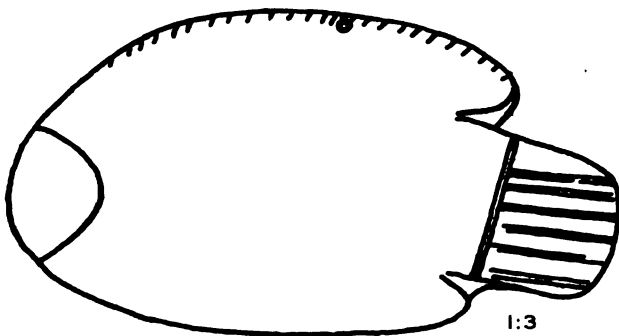
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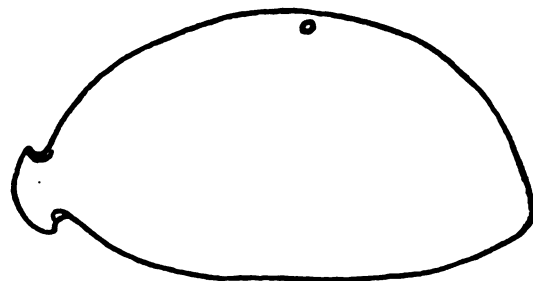
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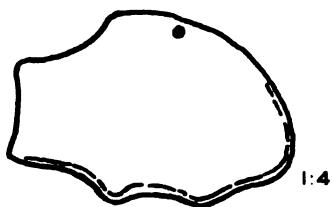
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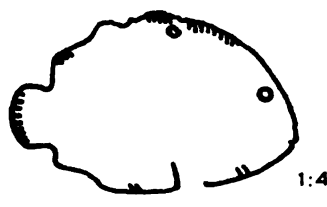
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8 P



9 P



10 P



11 P



12 P



13 P

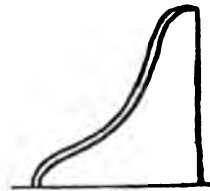


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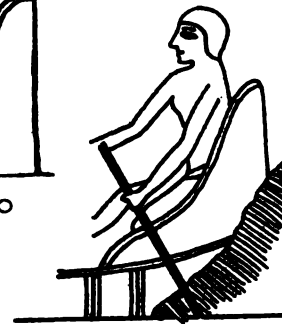




23 O



24 O



25 O



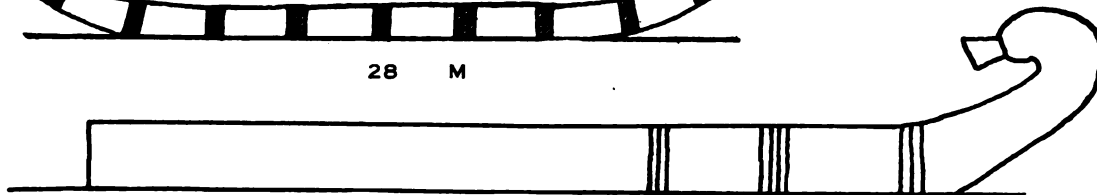
26 O



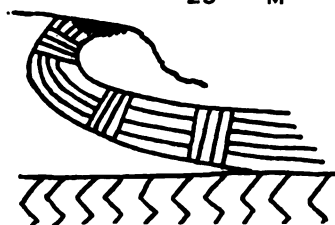
27 O



28 M



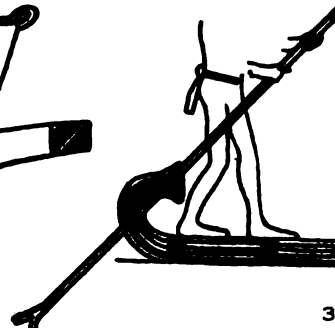
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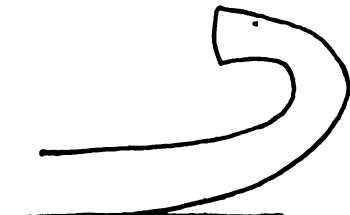
30 N



32 M



33 M

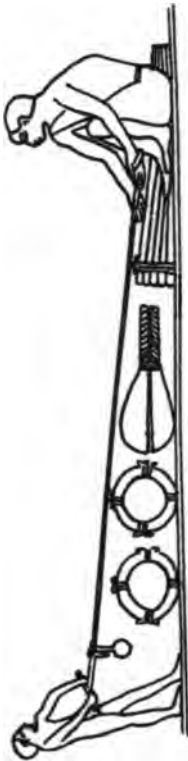
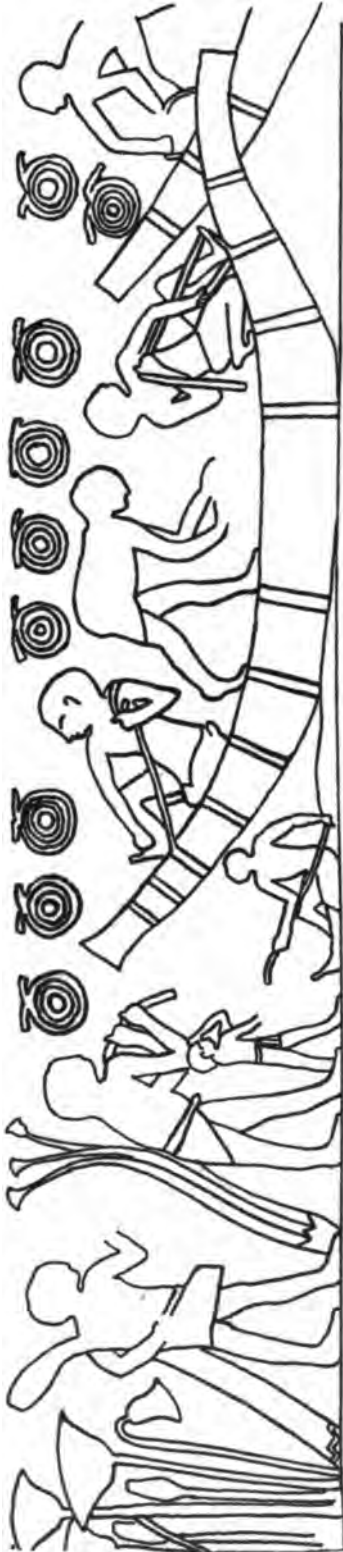
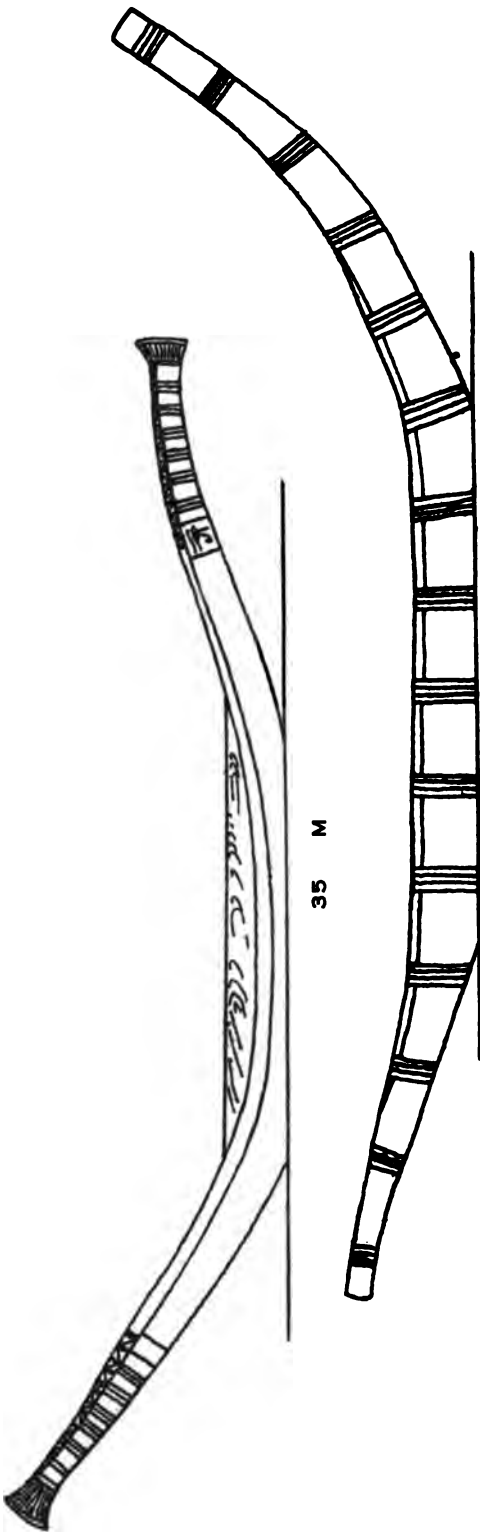


31 N

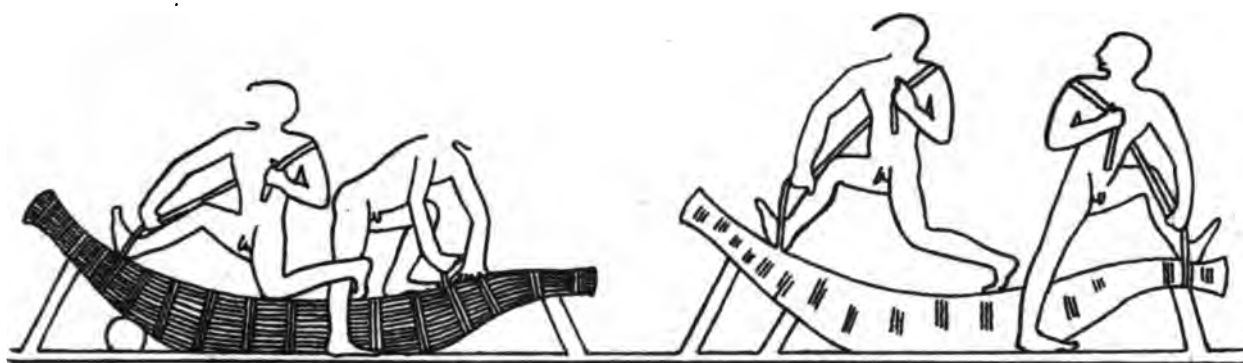


34 M

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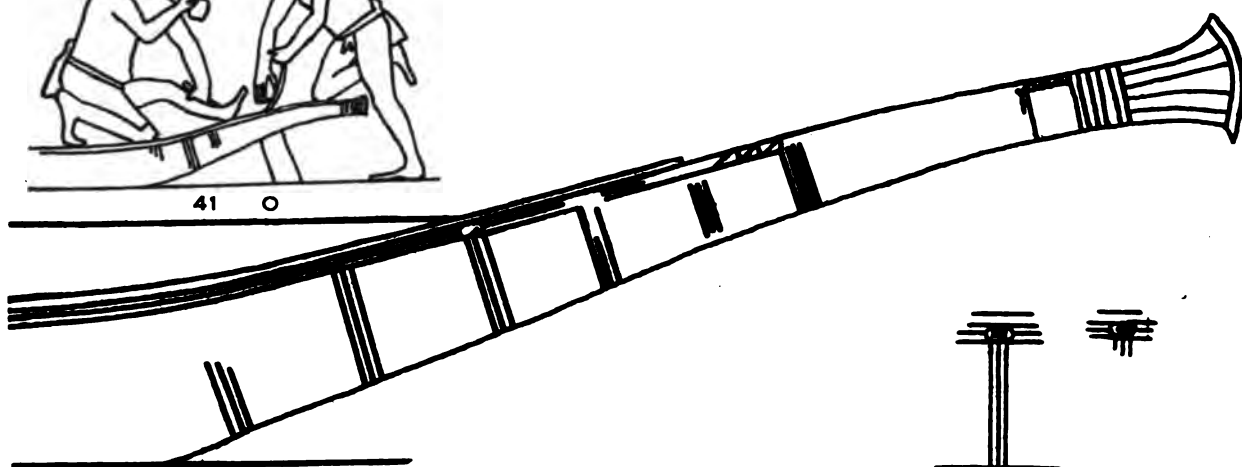
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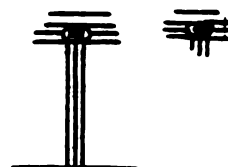
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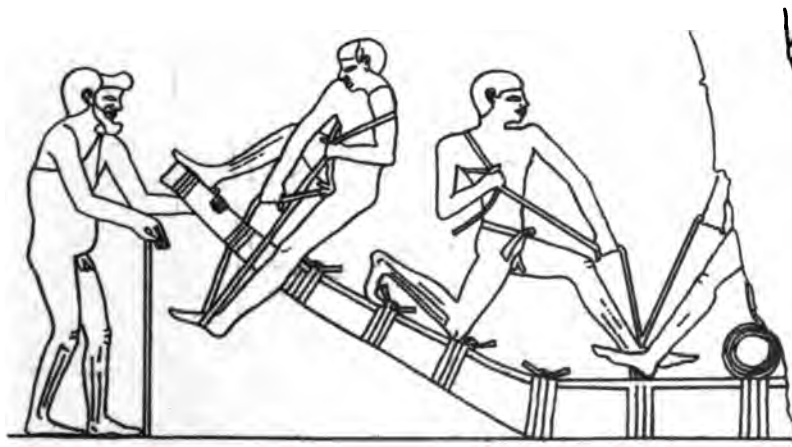
41 O



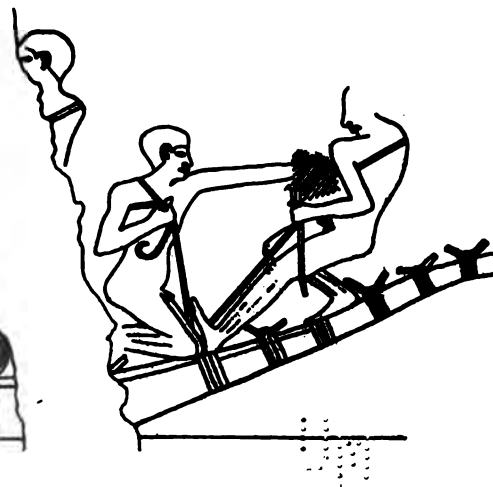
42 M



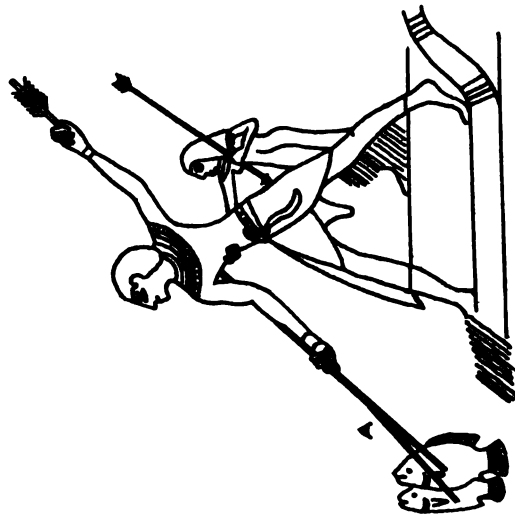
43 M



44 M



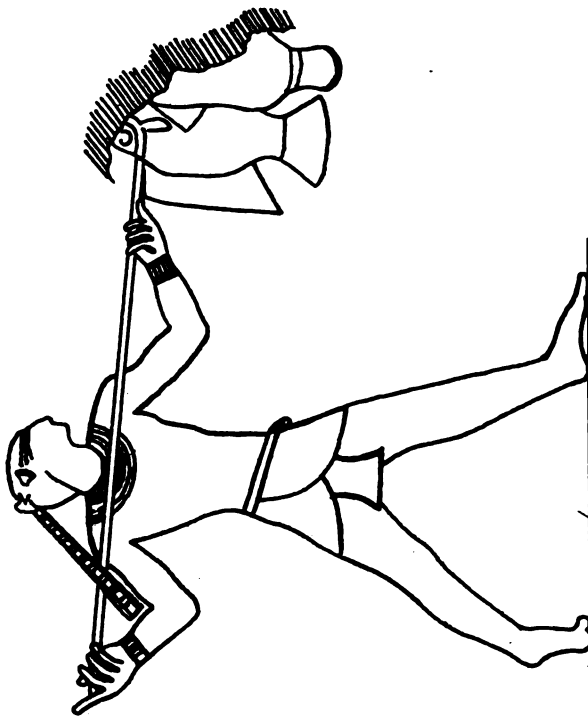
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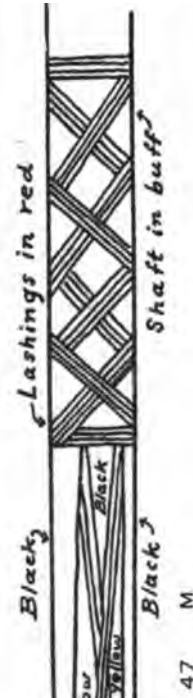
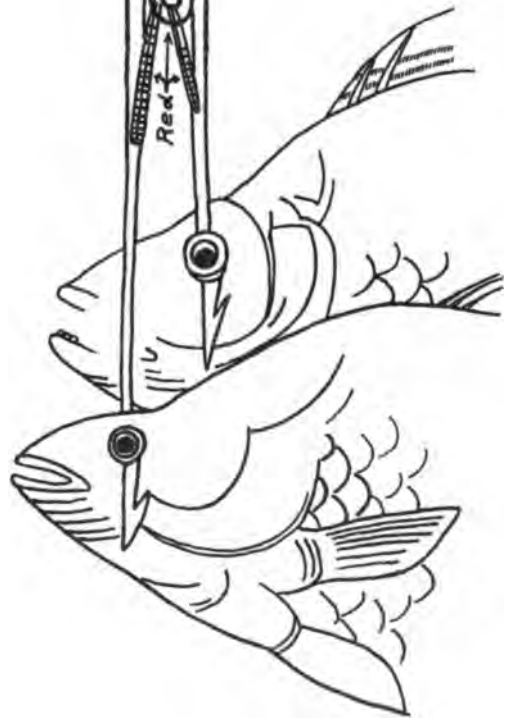
46 N



A



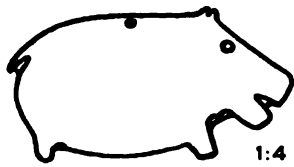
45 O



47 M







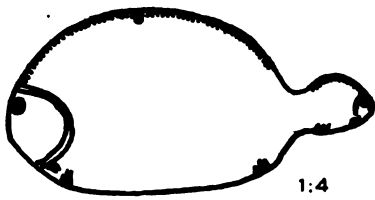
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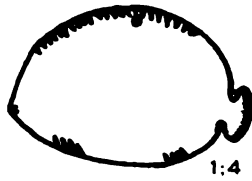
2 P



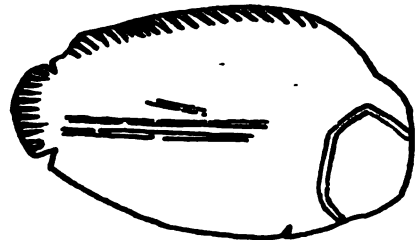
3 P



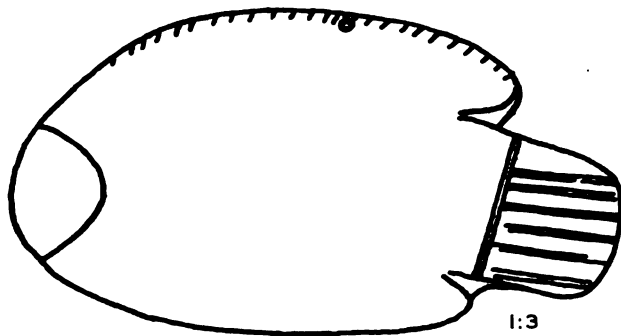
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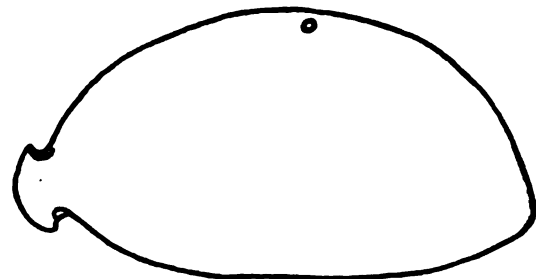
5 P



6 P

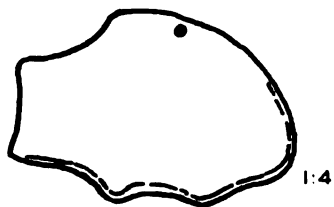


7 P

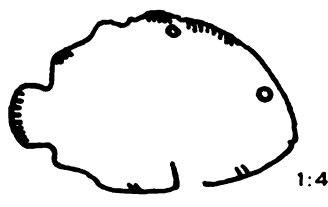


8 P

1:3



9 P



10 P



11 P

1:4



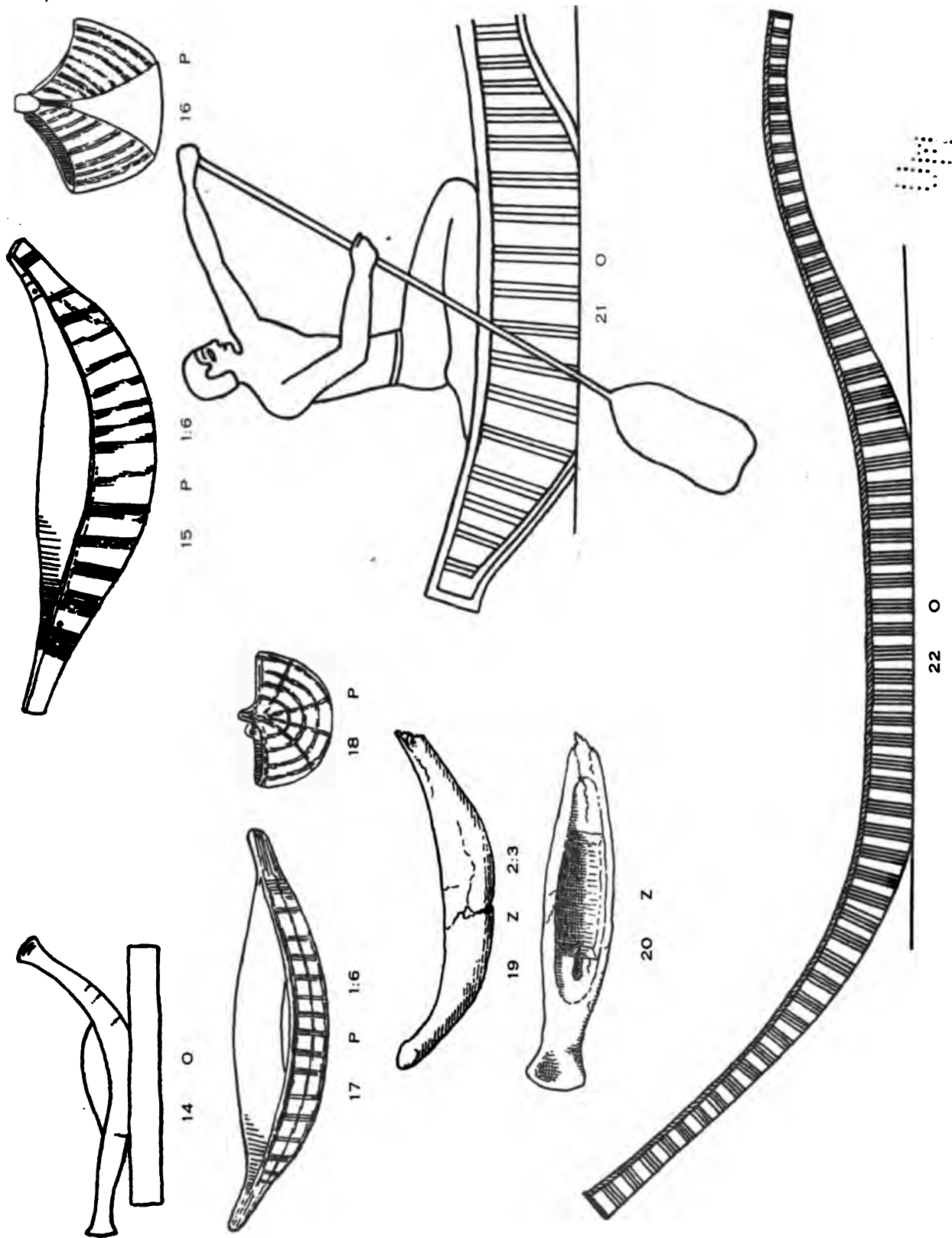
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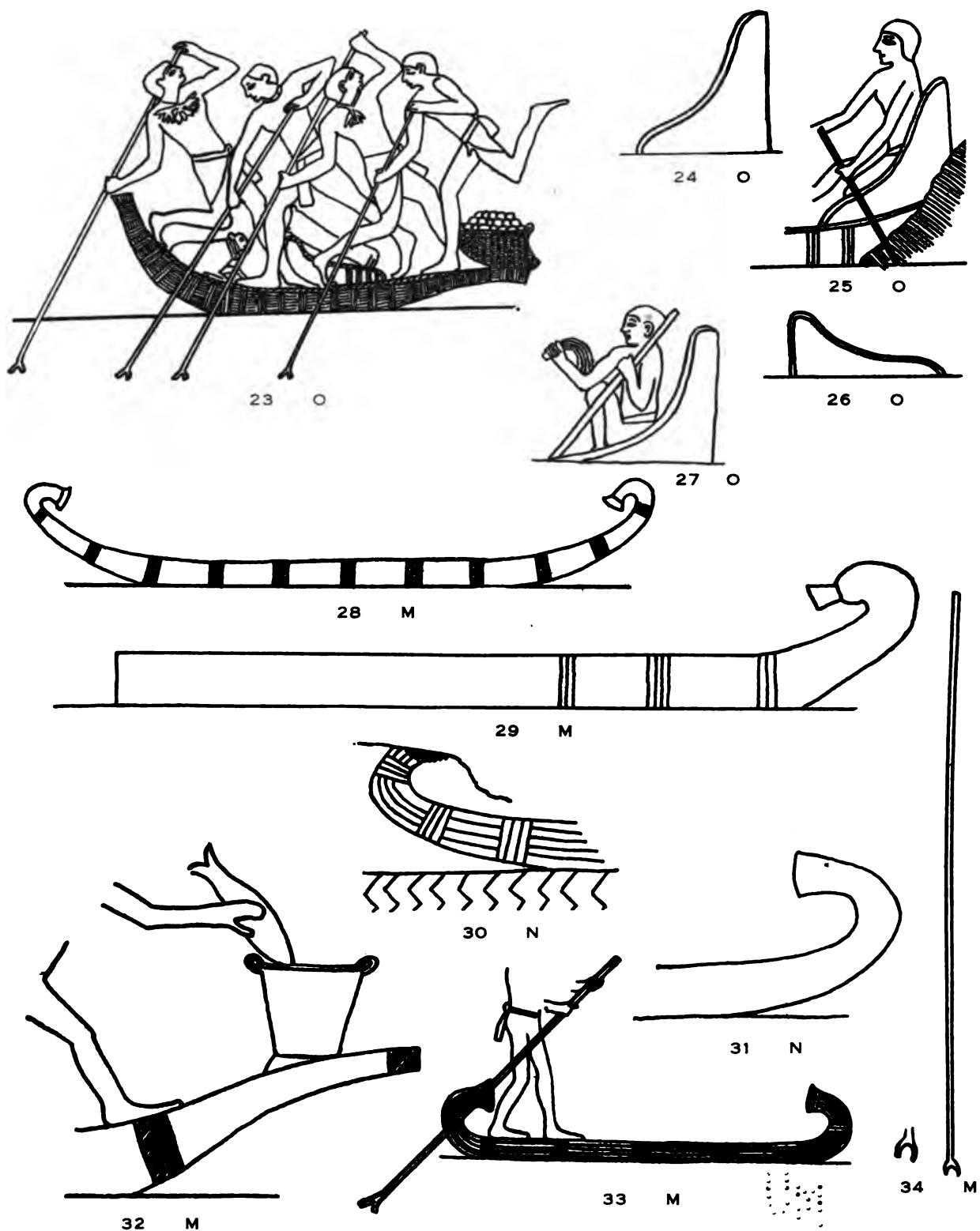
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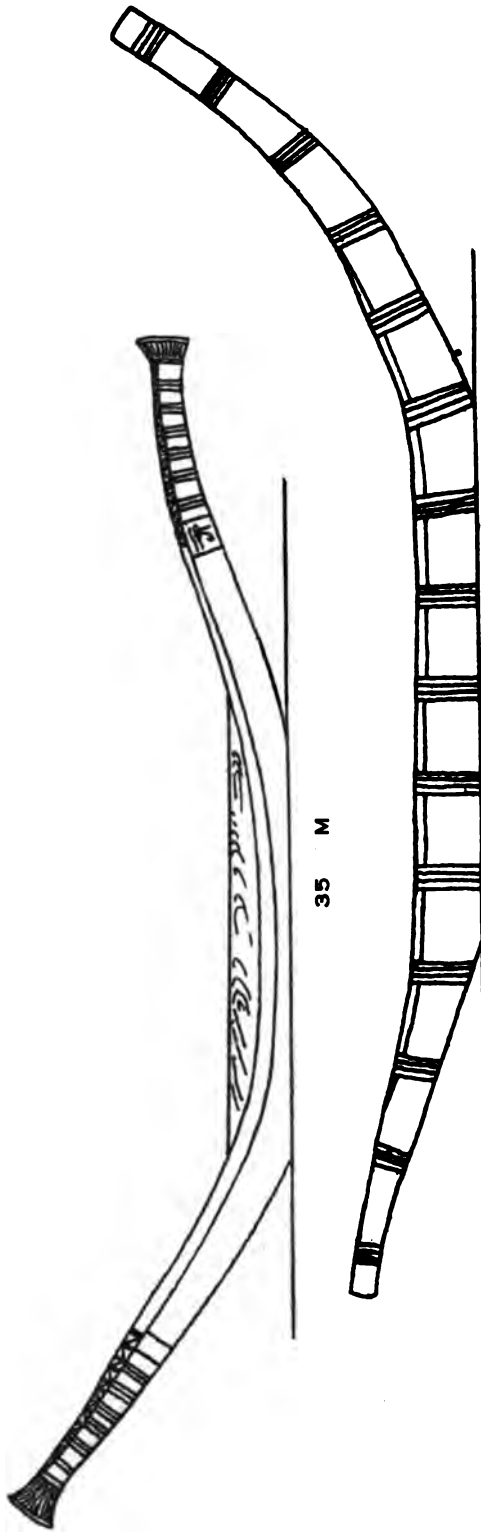
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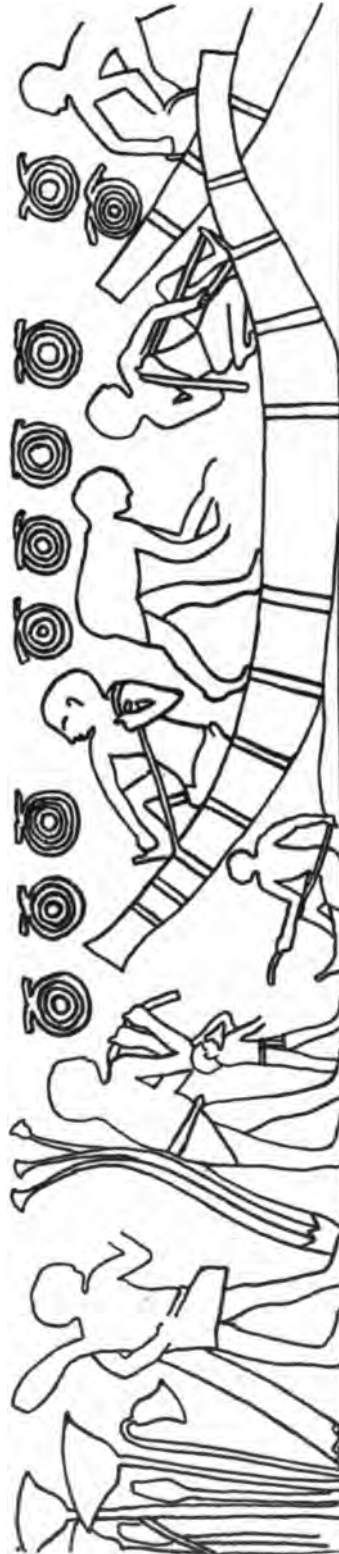
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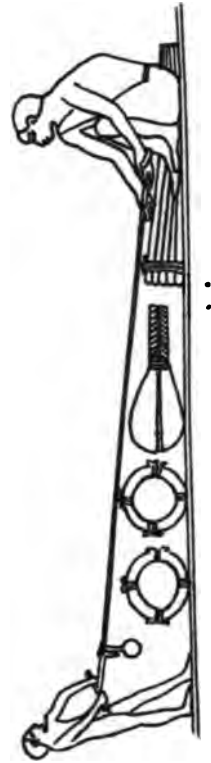
36 M



38 O



39 O





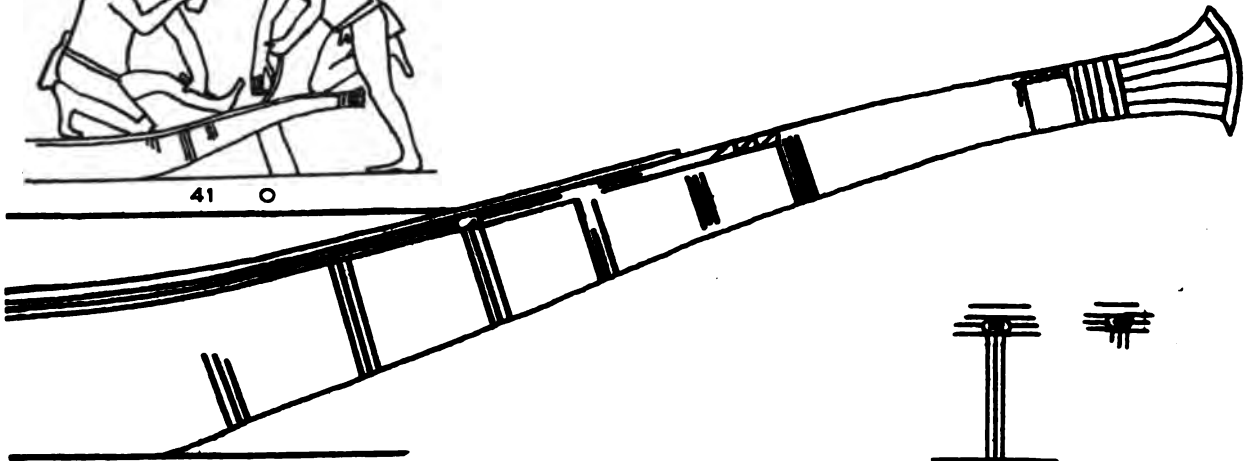
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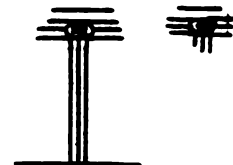
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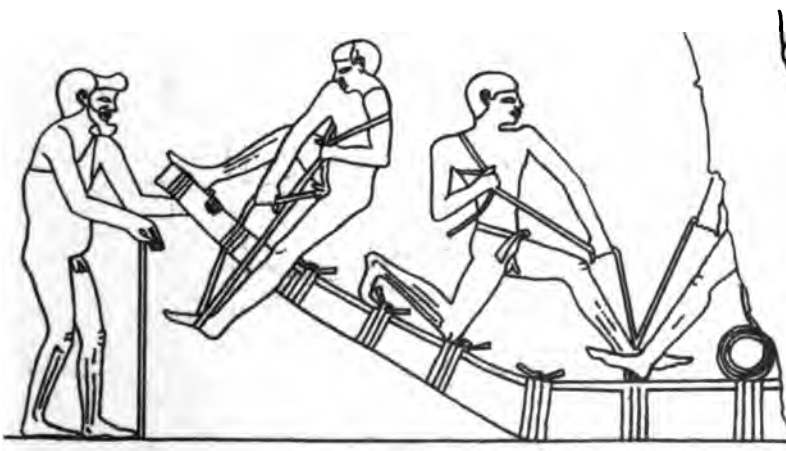
41 O



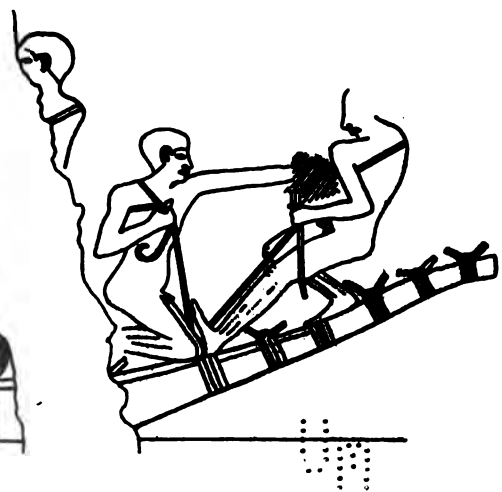
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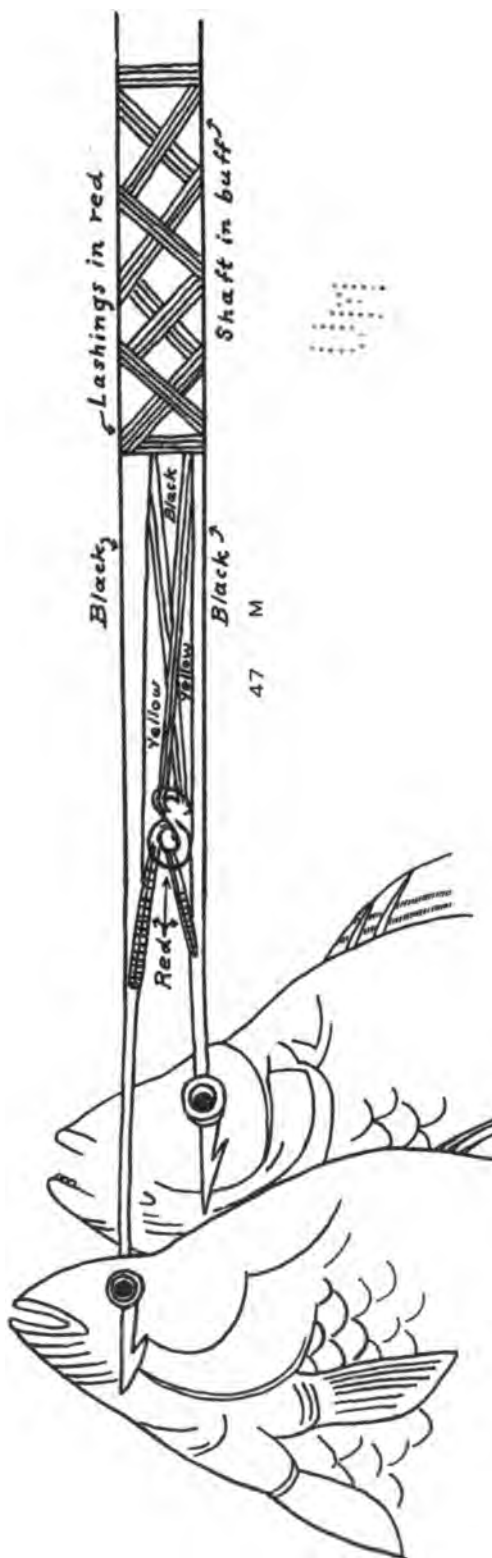
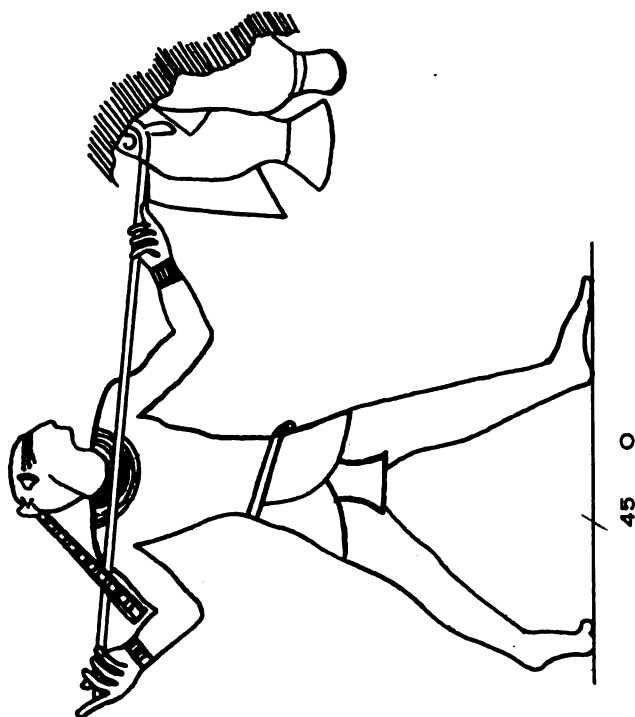
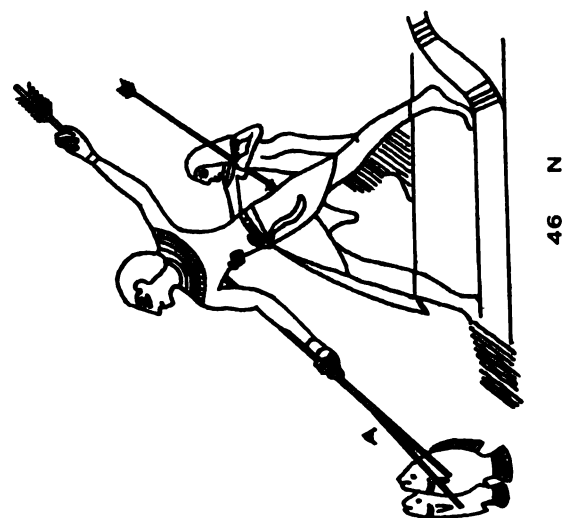
43 M



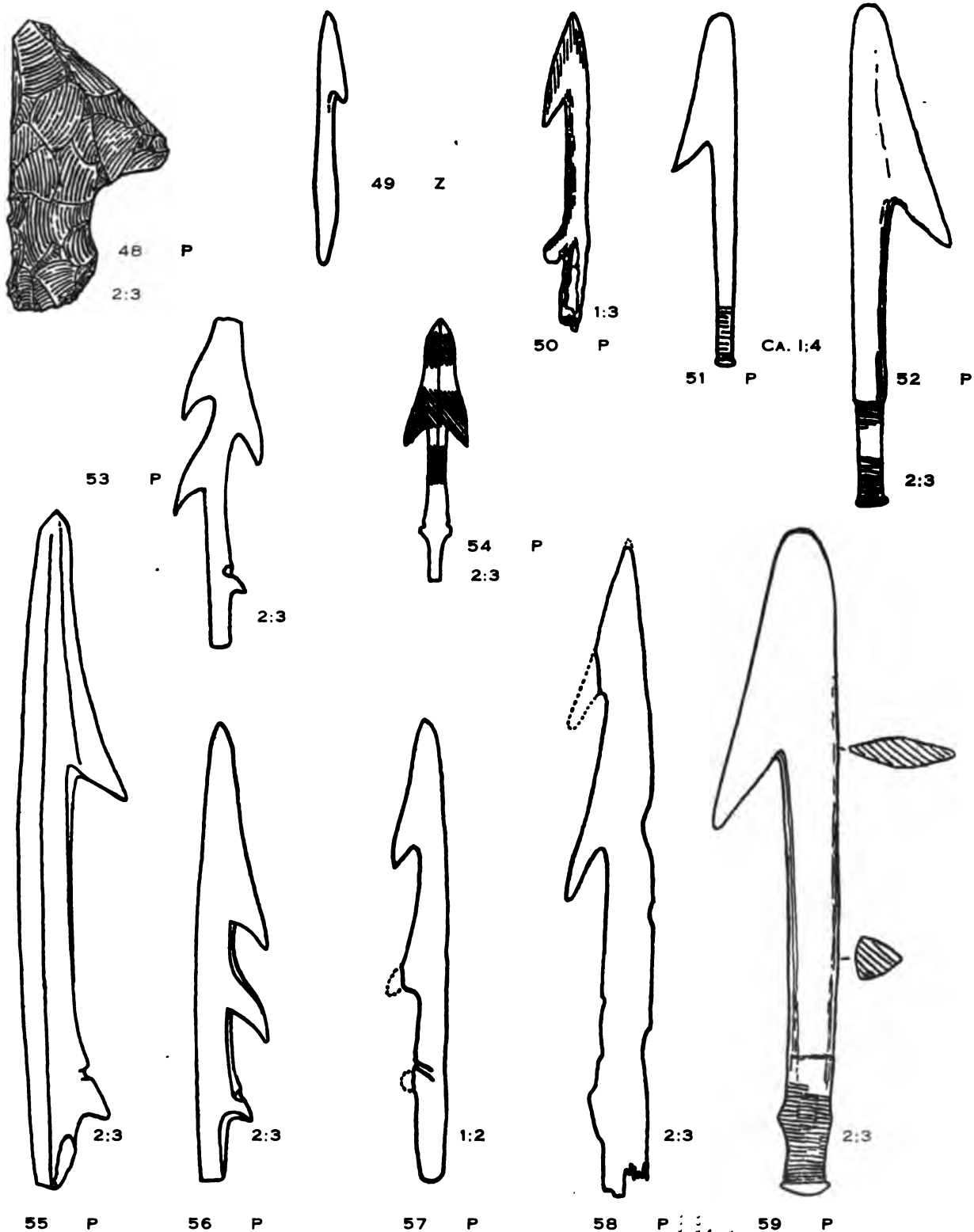
44 M



1000



1000  
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2000



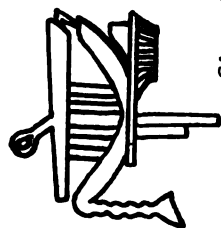
64 M



63 O



62 O



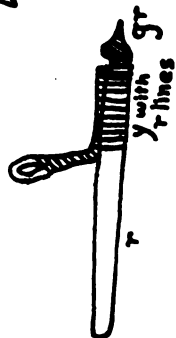
61 O



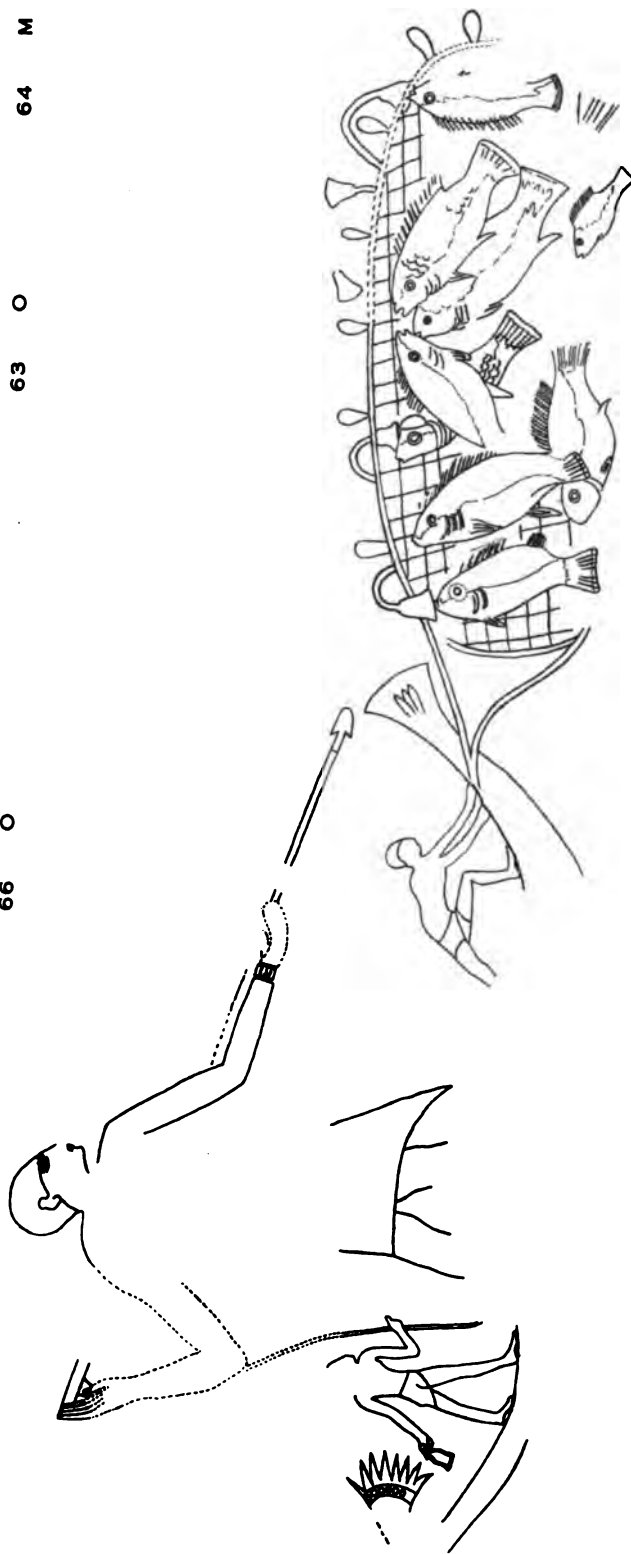
66 O



60 P



65 M



67

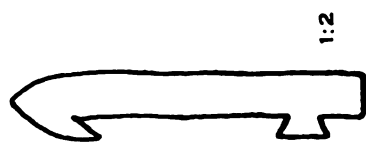
67 M



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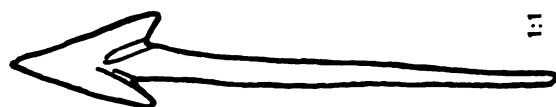
1:2



1:2



1:2



1:1



1:2



1:2



1:2

Z

68

Z

69

Z

70

Z

74

Z

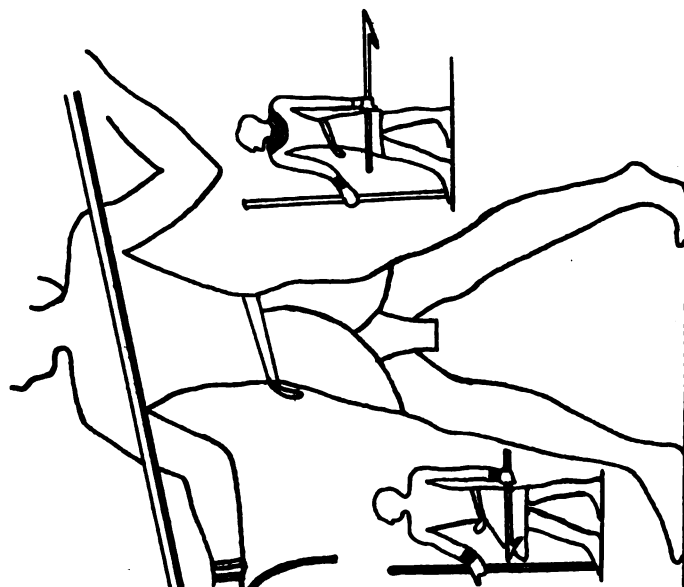
73

N

72

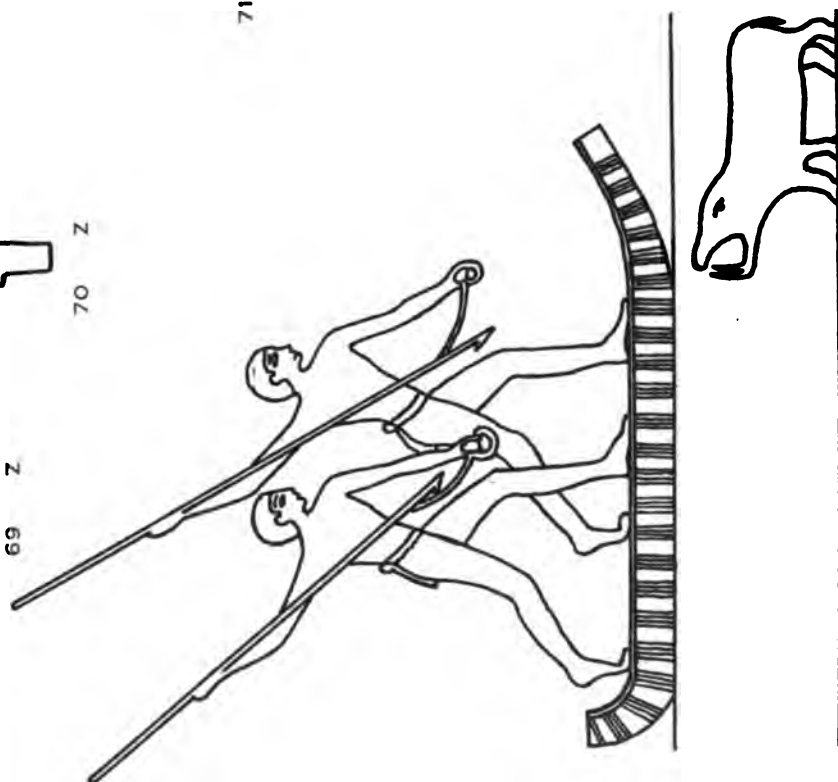
N

71



O

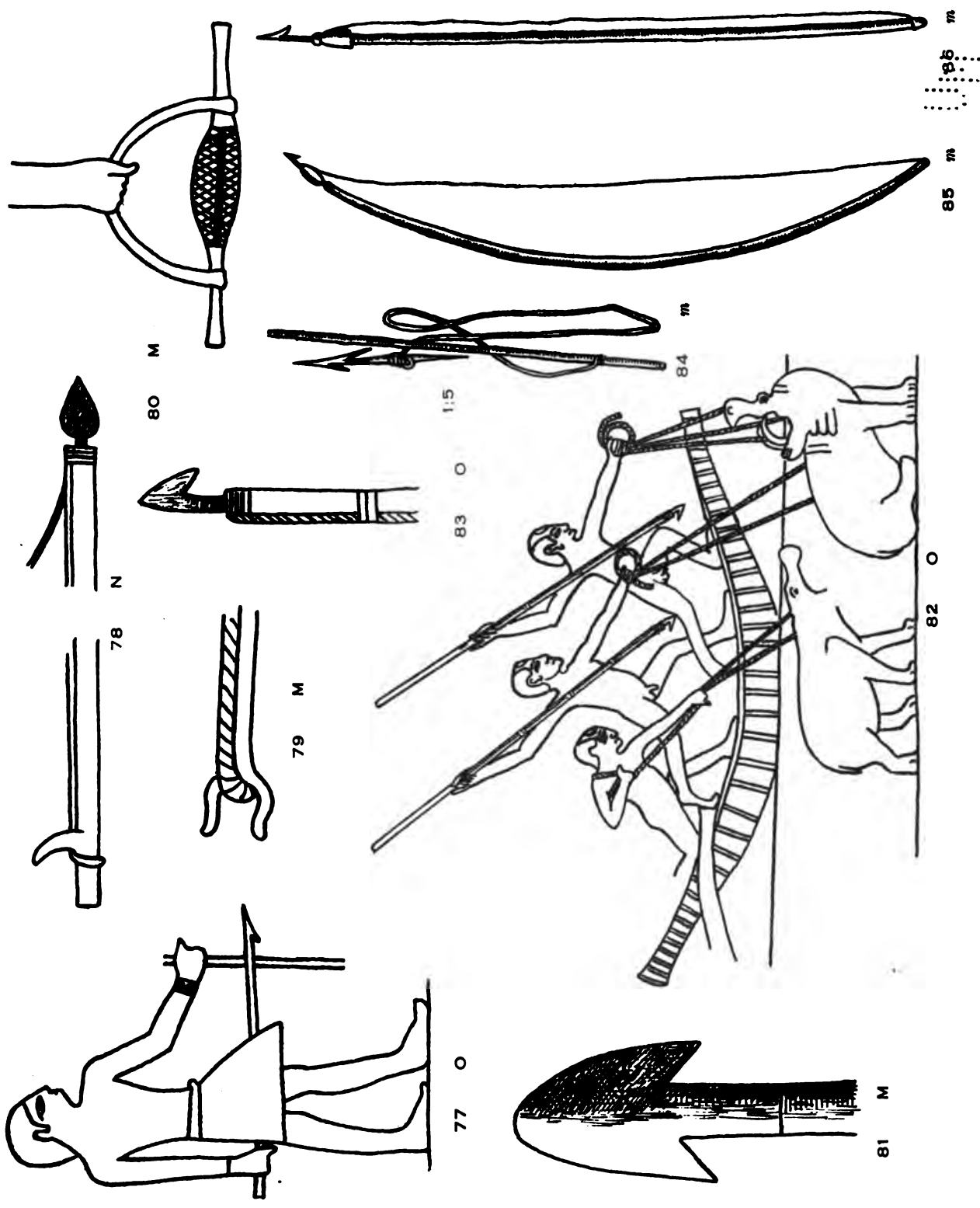
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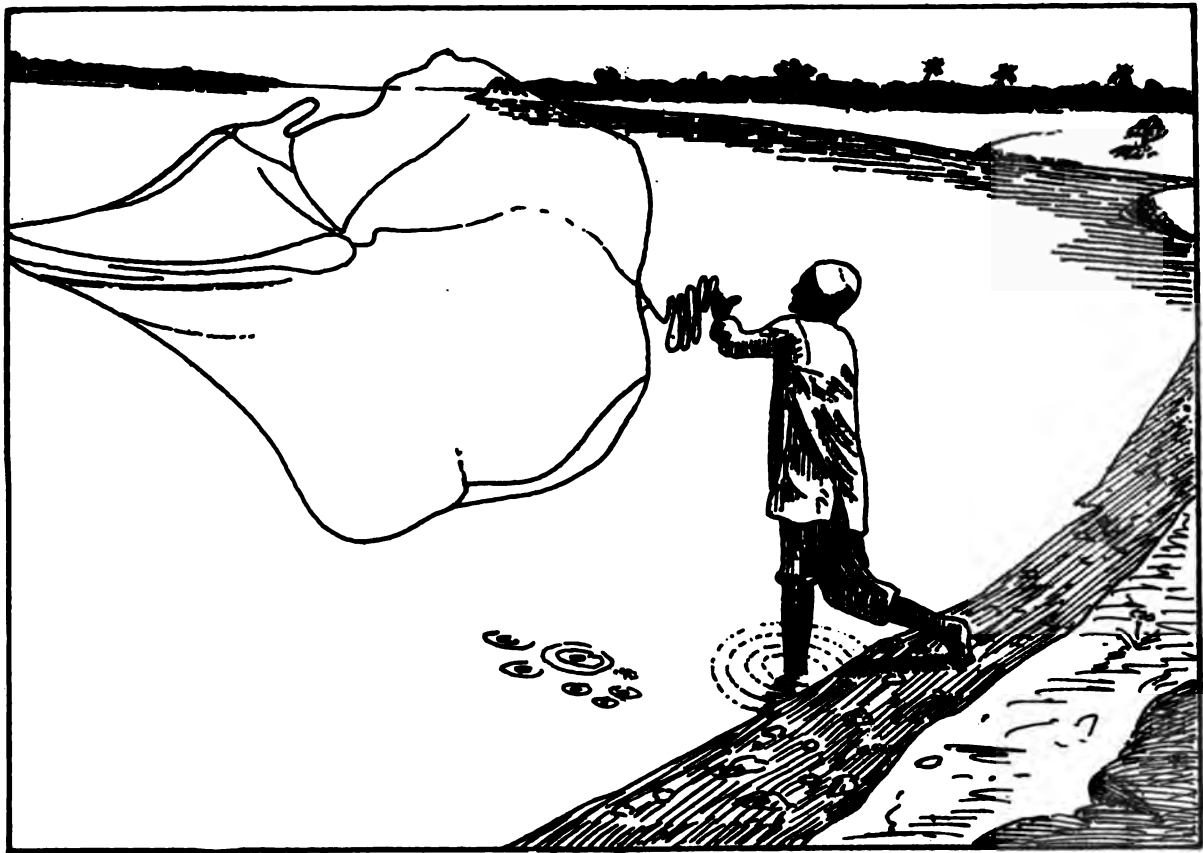
O

75

**Figure 1**



11



154



155 N



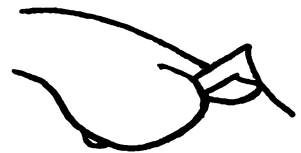
156 N



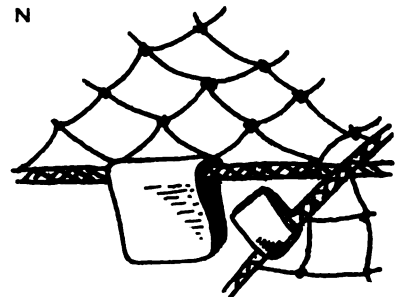
157 N



158 N

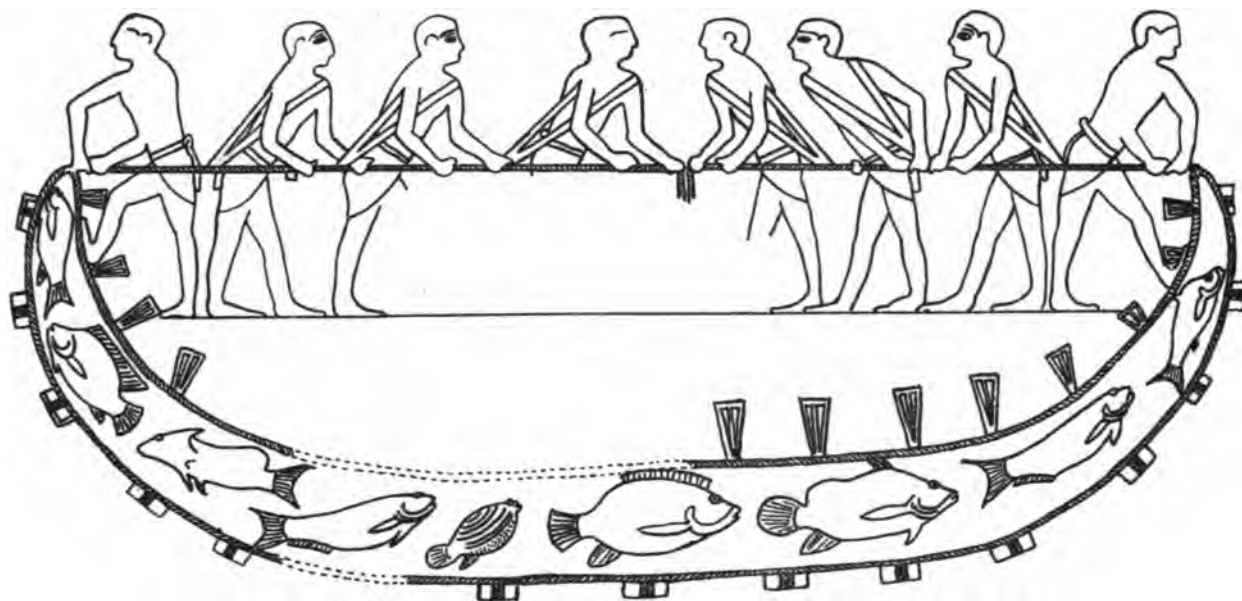


159 N

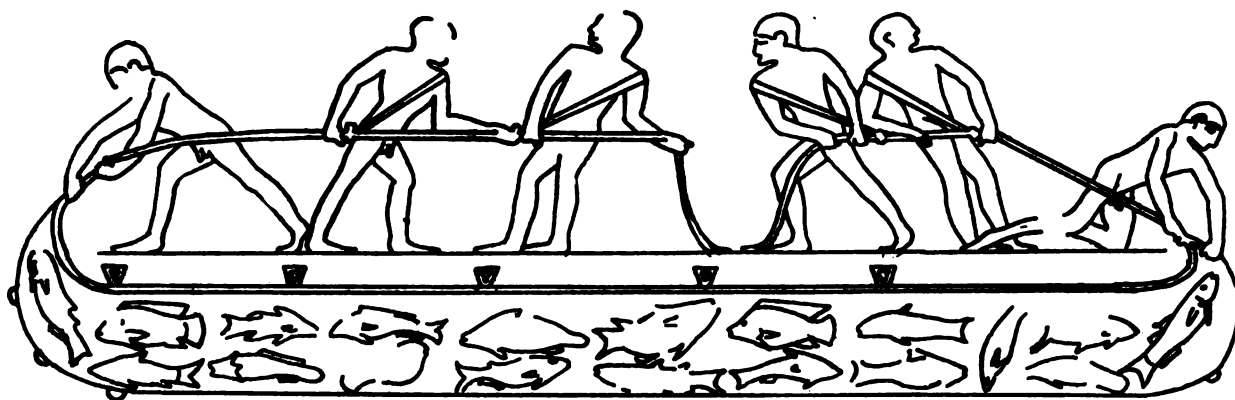


160 L?

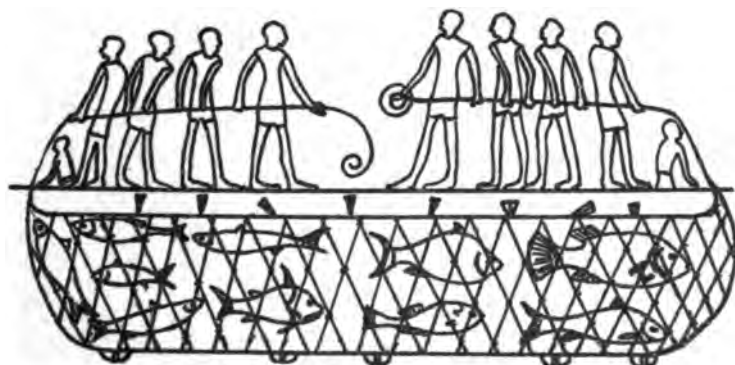
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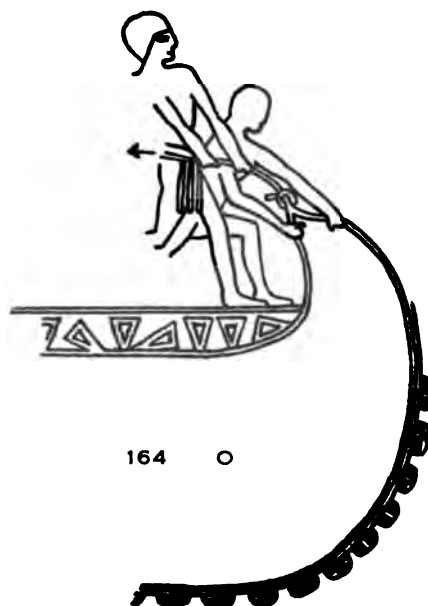
161 O



162 O



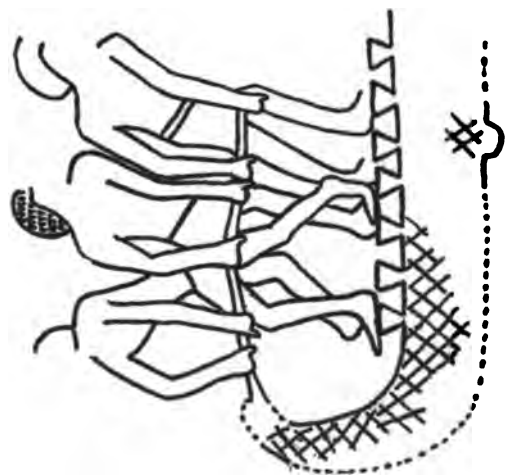
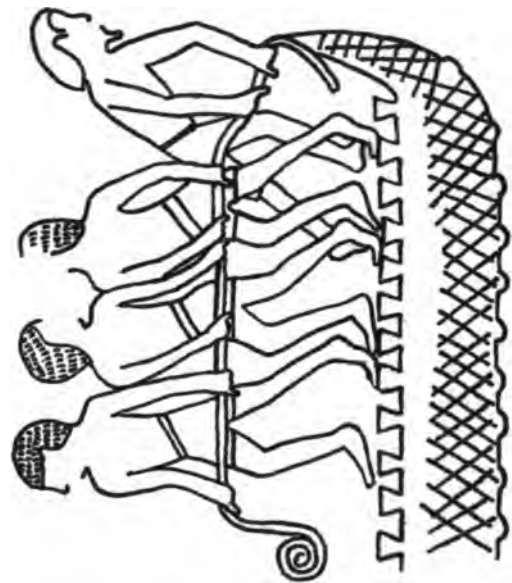
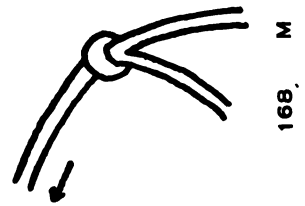
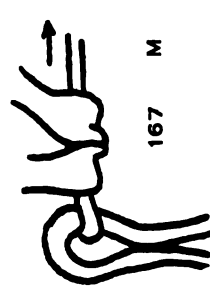
163 M



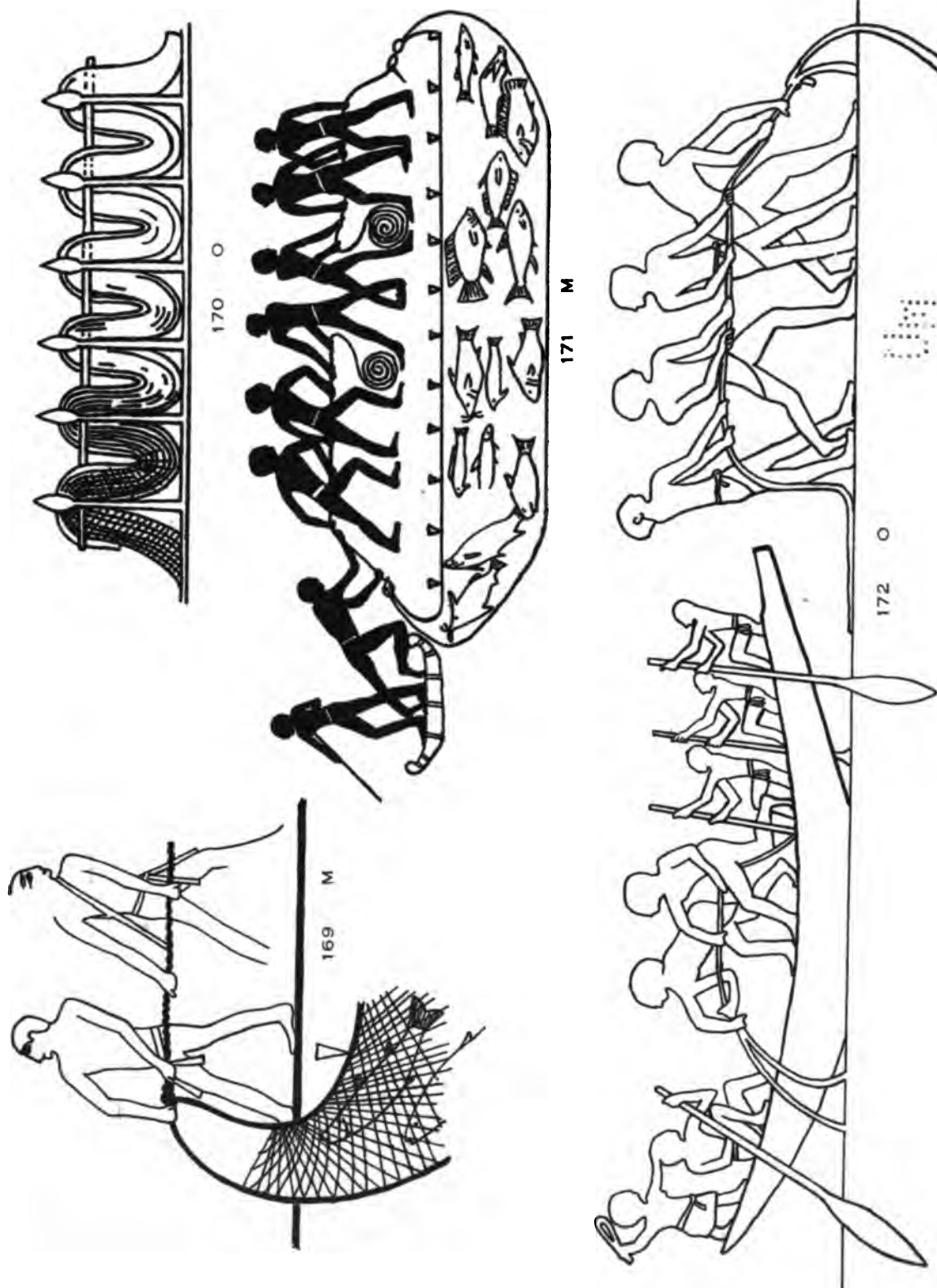
164 O



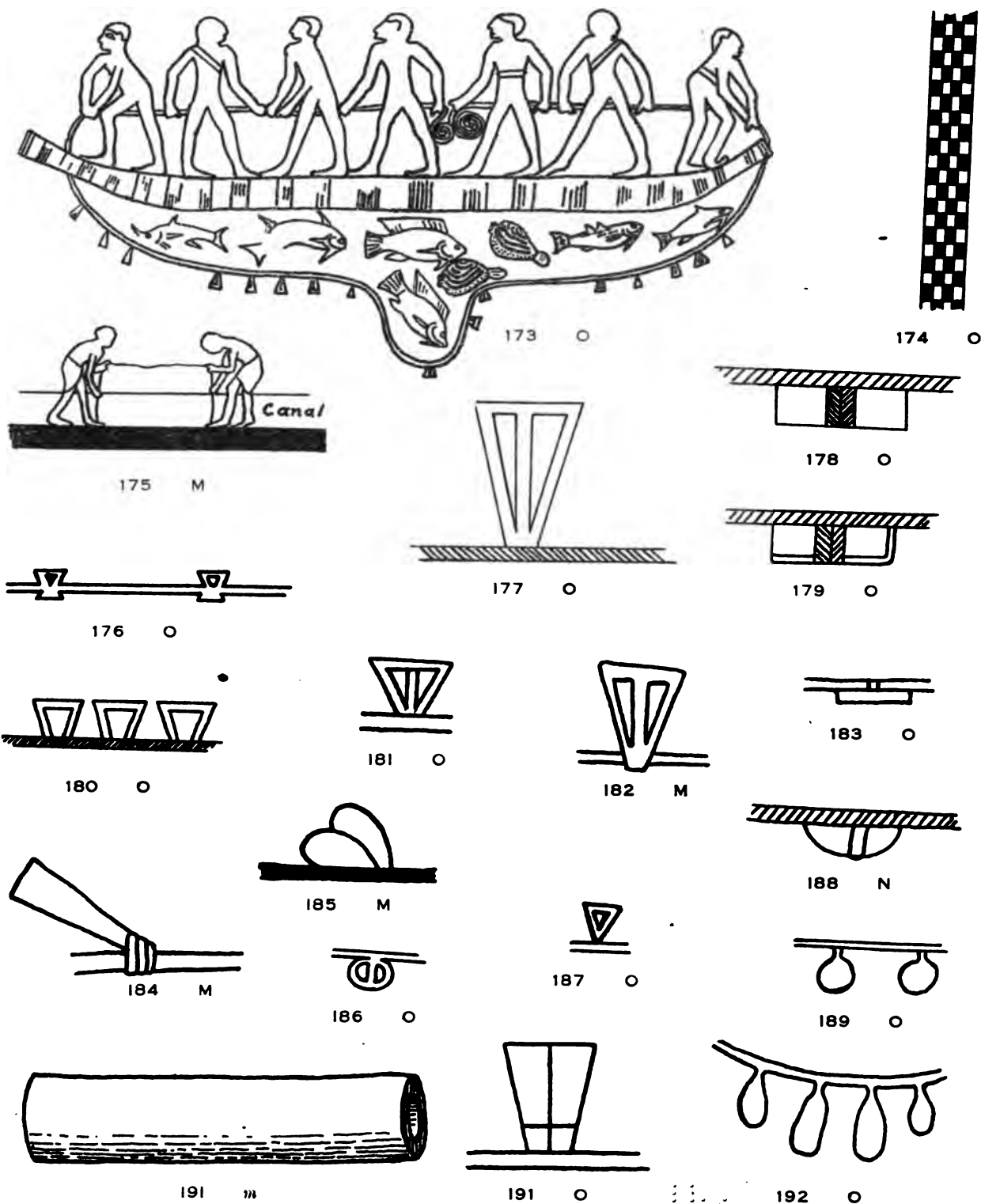
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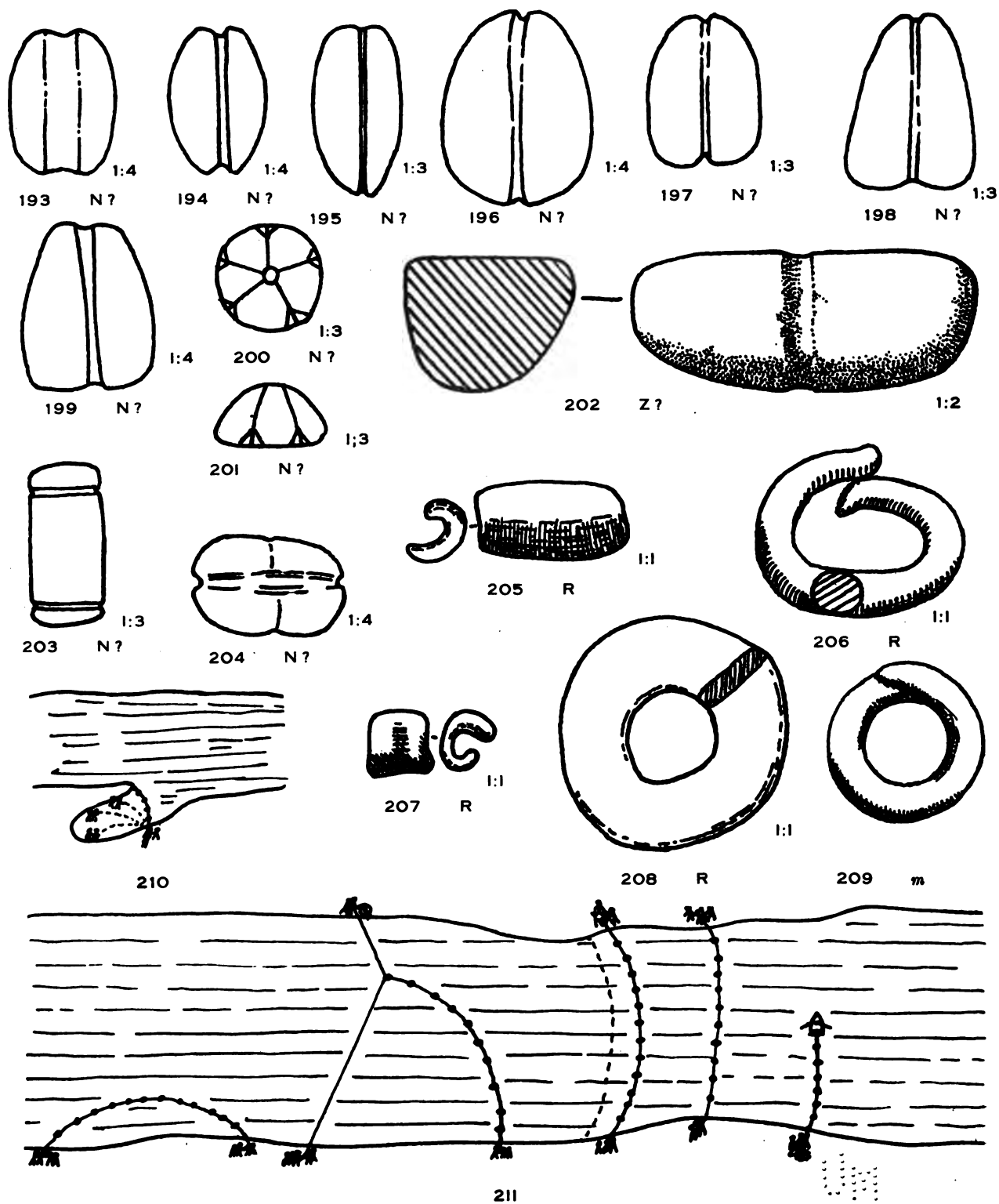
35



1000



44

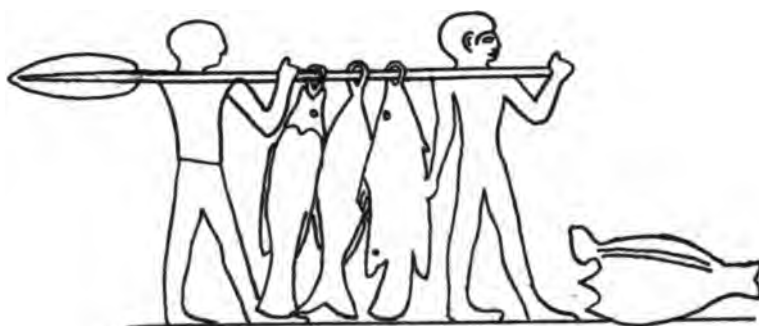




4



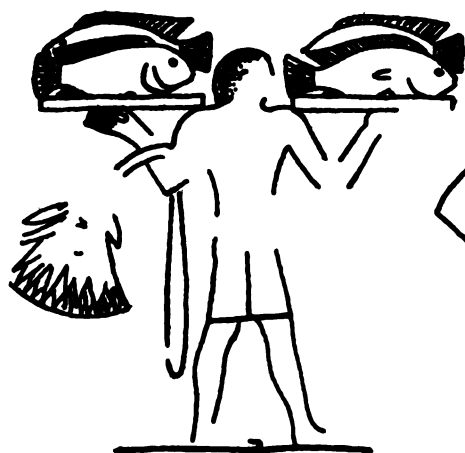
212 N



213 O



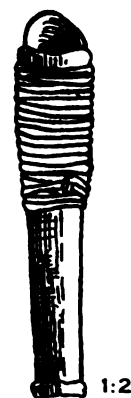
214 M



215 M



216 Z



217 M?

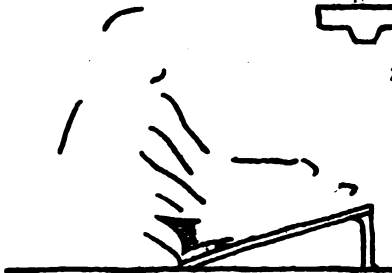
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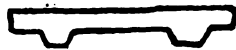
218 M



219 O



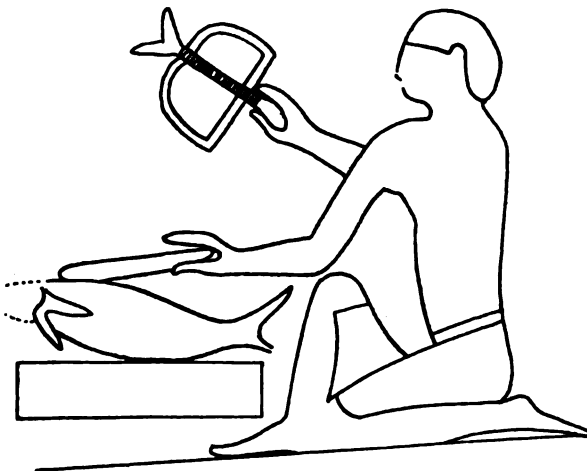
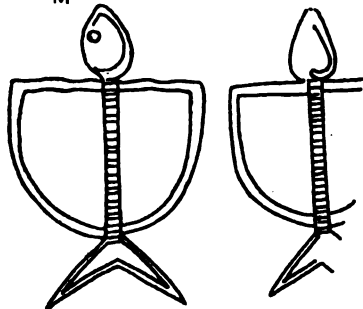
221 M



220 O



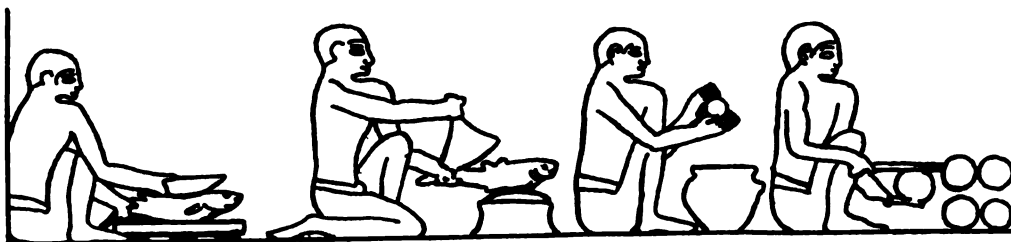
222 N



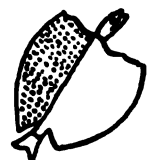
223 O



224 O

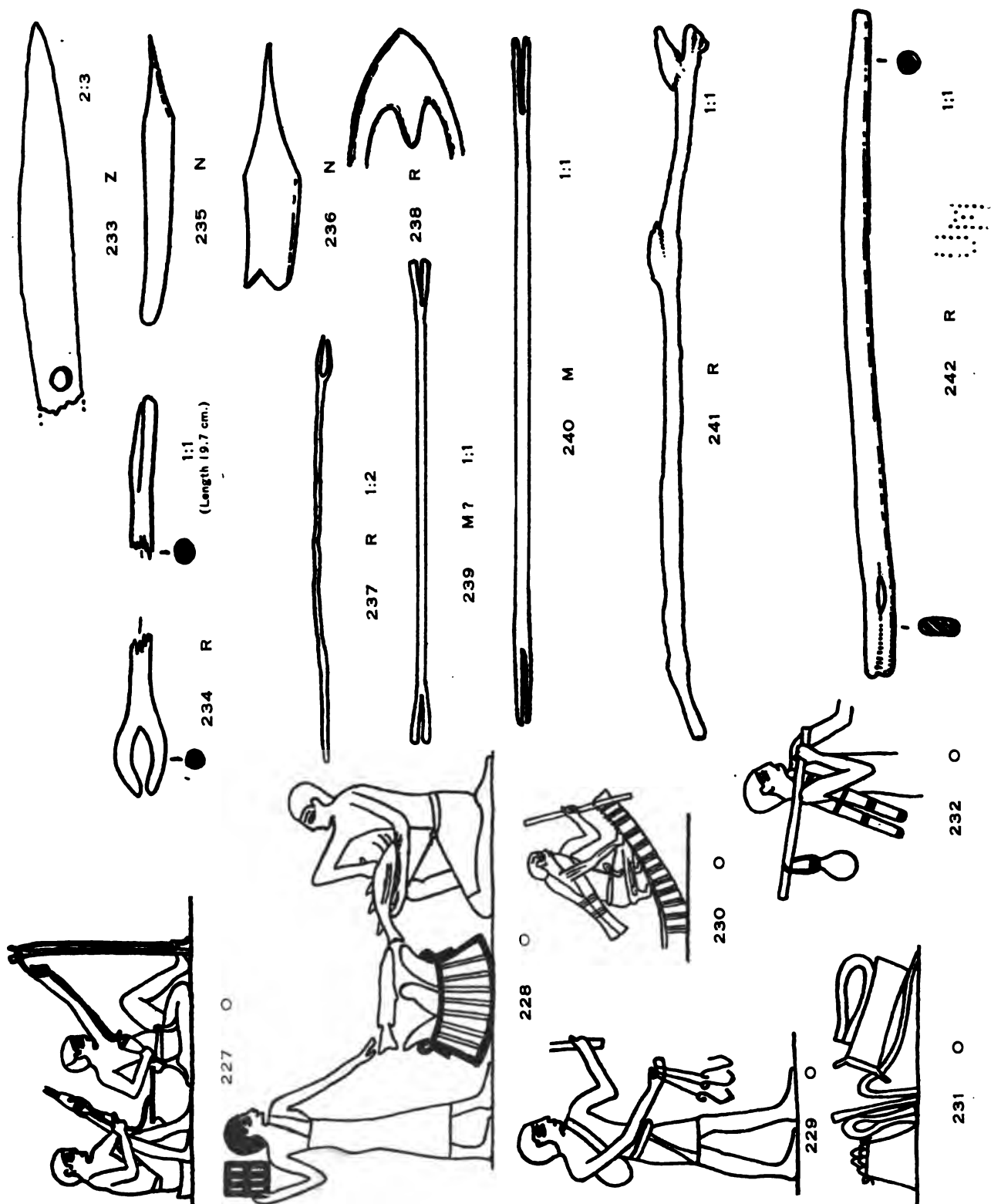


226 O

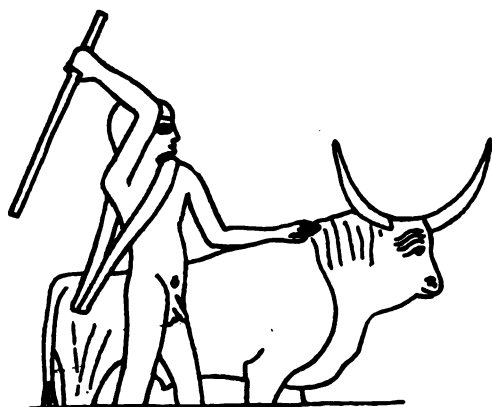


225 M









WATER

243 O



244 O



245 N?



246 M



250 N?



251 L



247 O



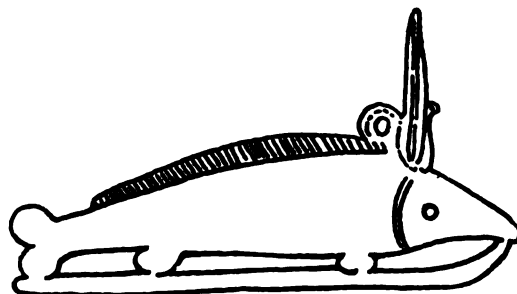
248 N?



249 N?



252 L



253 R

254

	1	2	3	4	5	6	7	8	9	10	11	P	N	L
P	I	I										?		
Z Men	---	---	---	---	---	---	---	---	---	---	---	?	?	
O														
M	I			---	---	---								
N				---	---									
L														
R														
m														





44

## SELECTED BIBLIOGRAPHY OF AFRICANA

FOR 1915

RICHARD F. CARROLL

The subjoined bibliography makes no pretense at providing the reader with a complete list of the Africana of 1915. Any attempt to make such a list would be invalidated by the suspension of many periodical publications because of the war, and by the loss and uncertainty of the mails owing to the same cause. In some cases it is well-nigh impossible even to learn whether or not journals have come out in course, or have temporarily ceased to appear.

But aside from these unusual drawbacks, there is another and quite different reason for which many recent African items have not been here mentioned. In preparing this list of books and articles I have had in view a single aim; to present only those African titles which would prove useful to the anthropologist. Thus it has come about that many titles noted in the first draft of the bibliography were later struck out — I have, for example, only entered such Egyptian items as deal with the primitive aspects of Nilotic culture, here confining myself to notices of books and papers dealing with Egyptian religion, philology, folklore, physical anthropology, and archaeology. Similarly, many important works of a historical or political character have intentionally been omitted. On the other hand, not a few books or papers of a very popular nature have been listed because they contained either illustrations or scattering textual notices of a sort calculated to throw some light on native life or regional environment.

It is hoped that despite the difficulties attending all bibliographic work under present conditions, the list may prove serviceable; and that any important titles which have unavoidably been overlooked will find their place in an addendum to be published with the Selected Bibliography in the next annual volume of the Harvard African Studies,

My chief sources have been as follows:


Peabody Museum Library, Cambridge, Mass.

Harvard College Library, Cambridge, Mass.




Library of the American Board of Commissioners of Foreign Missions, Boston, Mass.


Library of the Andover Theological Seminary, Cambridge, Mass.

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- Abercromby, J. The prehistoric pottery of the Canary Islands and its makers. (J. R. Anthropol. Inst., Lond., 1914, vol. 44, p. 302-323, 10 pls.)
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## EDITORIAL NOTES

1. **The scope and purpose of the Harvard African Studies.** On this topic Colonel Roosevelt has touched in his Introduction to the series: it may not, however, be amiss here to state in somewhat fuller terms the nature of this publication.

The Harvard African Studies is designed to consist of annual volumes — under the title of *Varia Africana* — made up of miscellaneous papers, and of occasional monographs presenting the results of original field or laboratory research. The size and the typographic style of the future volumes it is intended shall conform with that of the present number.

The scope of the volumes may be defined as African anthropology in the widest sense. Only original papers are desired, but these may be of any length compatible with their presentation in a volume which is essentially in the nature of a journal, and may deal with any of the following subjects: physical anthropology; anthropometry; race-mixture; psychology; archaeology; ethnography; linguistics; sociology; ethno-geography; religion; folklore; or technology. A range so wide must perforce be limited in some directions, and the editors have therefore decided upon the exclusion of purely historical papers, even when the latter embody the political records of native tribes. As an exception to this rule, the editors may be willing, under certain circumstances, to accept historical material which, by establishing the presence of this or that group of people in a certain locality, or by throwing light on the nature or date of a migration, bears on racial questions and problems of primitive culture.

With regard to Egyptian material the attitude of the editors may be thus defined: they will welcome with pleasure original papers dealing with the prehistoric period, and with the primitive phases of Nile culture. These primitive phases in their opinion embrace survivals, the arts of life, religion, and language. For the higher manifestations of Egyptian civilization ample channels already exist in the numerous journals of Egyptology and Oriental Studies. The editors wish to say that they would especially welcome papers treating questions of Egyptian foreign relations, etc., from the anthropological point of view.

The series is open to papers of a non-controversial character dealing with a topic sadly in need of more scientific treatment — we refer to the question of the American negro. The anthropometrist, the sociologist, and the folklorist have in this direction a field of research which, if approached with adequate knowledge, can be made to yield

invaluable results. As these results cannot but be of practical importance, the editors are particularly anxious to have an opportunity of presenting them.

Published by the African Department of the Peabody Museum, the Harvard African Studies will, it is hoped, contribute in some measure to the progress of African Studies in America. The editors wish it to be understood, however, that in the service of science they acknowledge no national distinctions, and they extend a most cordial invitation to European, as well as to American investigators, to contribute to the series. On the response to this invitation the permanent usefulness of the series depends.

All contributions for the series should be addressed to "The Editor, H. A. S., Peabody Museum, Cambridge, Mass." When received, papers will be submitted to the Publication Committee, which passes upon the suitability, from the point of view of the series, of all manuscripts.

The price of each volume of the *Varia* is to be set at a figure about 15% over the cost of production. Any profit which may accrue is to be added to a small fund designed to defray the cost of publishing such monographs — e. g. grammars — as are very expensive to print, and for which there is only a limited demand. The price of each volume will of necessity vary in accordance with the cost of production. The edition of the *Varia* is set at 750 copies: those of the monographs will depend on the nature of the subjects whereof they treat. Applications for copies, accompanied by P. M. O. or certified checks, may be sent to the Assistant Editor at the above address.

In closing this note the editors beg to add that it is in the spirit of those to whom the Harvard African Studies as a series is dedicated that they aim to do their work.

**2. An Ethnographic Atlas of Africa.** Travelers, missionaries, administrators, and scientists have published a vast amount of valuable information regarding the various peoples and regions in Africa. As yet, however, there has been comparatively little correlation of this evidence. Now that the day of the reconnaissance explorer is essentially past, and we begin to receive accurate and detailed studies of single tribes, it is highly desirable to have the great mass of published material carefully sifted, so that the future student and investigator may be able to make his efforts as productive as possible.

It is especially important to have various cultural elements individually studied with reference to their distribution throughout the continent, and with regard to their variations from area to area. Maps compiled with a view to forming an ethnographic atlas of Africa can now profitably be begun. We need maps showing the distribution of objects of material culture such as house types, boat types, and types of weapons; of technical processes such as fishing or metal working; of social or religious customs, and of folklore. These, combined with maps showing the distribution of physical types or of linguistic stocks, would prove invaluable to future Africanists.

From even a few such documents, it might be possible to plot cultural areas, as has been done for North America — the areas in question being regions of fairly uniform culture, marked off with some sharpness from other such areas. It would then appear whether the African areas depended on geographic conditions, on plant or animal distributions, or on the superior inventive genius of certain tribes or races. On the other hand, it might appear that the whole culture area hypothesis was untenable, and that within any given geographic area, or within any given tribe, there would exist elements of culture which were adopted at widely differing times and belonged to different culture levels. Thus, a true stratification of cultures might be exposed. Yet again, it might be found that people living in similar environments tended to develop a like culture regardless of any contact or close ethnic affinities.

Each of these possibilities is held as a theory, consciously or unconsciously, by various anthropological writers. Africa is pre-eminently the continent in which to test the validity of each. In no other continent do we find a greater uniformity of culture, among primitive peoples. And no where else has our knowledge been so closely of contemporaneous epochs. There, if anywhere, consequently, it should be possible to weigh the various theories of cultural development.

By the publication of detailed monographs dealing with the distribution of some specific artefact, practice or belief, the long road towards the preparation of an ethnographic atlas can, little by little, be cleared. The editors of the Harvard African Studies earnestly hope eventually to publish such a collection of maps, and will in the meantime particularly welcome articles tending to further that end.

**3. Sudanese Planting Tool.** Among a number of ethnographic specimens presented to the Peabody Museum by J. C. Phillips, is the planting tool from Sennar Province, Anglo-Egyptian Sūdān (P. M. no. 85514) figured in the margin. The tool, a sort of mattock, consists of a crotched stick of mimosa with arms of unequal length: to the shorter arm an ebony blade is attached. The total length of the implement is 47 cm.; the longer arm measures 35.5 cm.; the shorter 10 cm.; and beyond the latter, the blade (24 cm. long  $\times$  1.5 cm. thick) projects 14 cm. This blade is attached by a seamless band or collar 4 cm. deep, made of the bark-like hide from the base of a

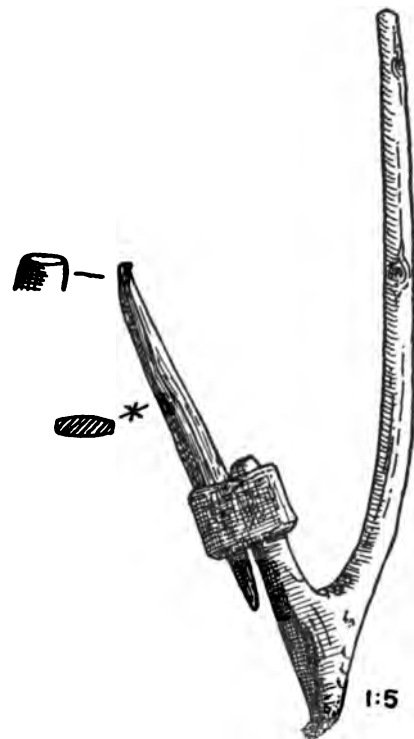


Fig. 1.

hartebeeste (?) horn. The end which passes through the collar has been whittled to a point; the other is 3.5 cm. wide, and its hammered aspect and the smooth polish of its sides attest its use for digging. The implement must have been held in the right hand, and swung from the left shoulder with an out-and-down stroke, as is shown by the oblique wearing away of one side of the blade. From marks of the hard usage seen on the heel of the crotch, and from the earth packed into several cracks in the wood, the implement was evidently used as a dibble as well as a hoe. Except for the lack of a strengthening cord binding the two arms together, to prevent splitting at the crotch, the implement is practically identical with the mattock anciently used in Egypt from the Old Kingdom until Graeco-Roman times.

4. A bronze celt from the Egyptian Delta. In 1913 the Peabody Museum ac-

quired the bronze celt shown in fig. 2 (P. M. no. B. 135). The specimen was brought in Cairo, and was said on very good authority to have been found near Zakâzîk in the Delta. It measures 12.1 cm. from one extremity of the cutting edge to the other, and 18.5 from the center of the edge to the rim of the helving-socket. This socket itself is rectangular with rounded corners, and measures externally  $5 \times 3.7$  cm. The material is almost certainly bronze and not copper. The whole outside surface of the specimen is thickly coated with a compact, smooth, non-lustrous, light green patina. Inside the socket, at the end of the cavity, is a deposit of greyish white mineral matter (A in section, fig. 3), apparently the remains of a sand or earth core round

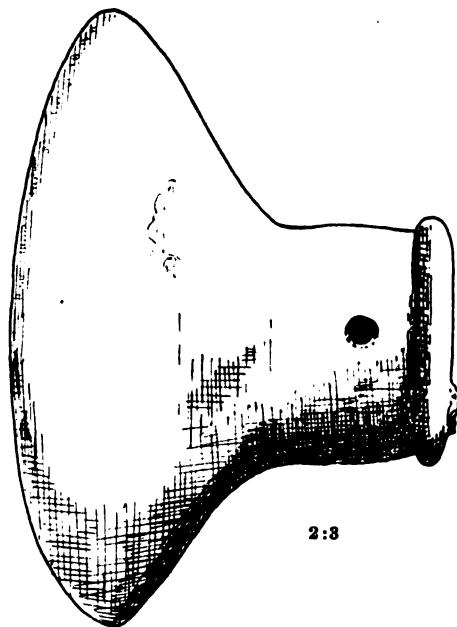


Fig. 2.

which the ax was cast. The socket was pierced by two opposed holes—one centered in each broad side—through which passed a pin or rivet which secured the ax to its helve. The latter must have terminated in a right-angled bend, for the character

of the implement forbids our regarding it as anything but an ax. To an imaginary axis running through the center of the socket to the center of the cutting edge the ax is bisymmetrical in both plane and long section.

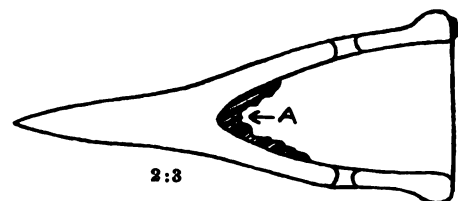


Fig. 3.

Celts of this form<sup>1</sup> are so unusual as to suggest that they are of non-Egyptian, or at least of local, origin, and it has therefore seemed worth while to record this specimen in these notes.

**5. Sudanese Grass Cutters.** Among the less common implements which appear in Sudanese collections are grass cutters of the type shown in figs. 4 and 5. The two specimens represented, which are now in the Peabody Museum, come from Sennar, where the native name for them is *mindabab* (singular). The example shown in fig. 4 has already been noticed in the *Cairo Scientific Journal*,<sup>2</sup> but it will not be amiss, since that publication is not generally accessible, to describe it here, in order that the reader may compare the two implements. It consists of a straight handle of mimosa wood with a roughly right-angled arm at one extremity, and of a celtiform iron blade. The length of the handle is 33 cm., that of the short arm which

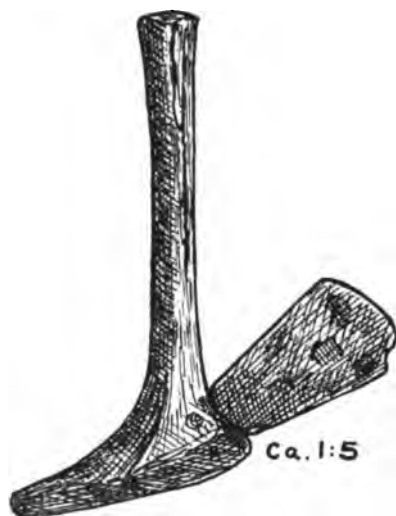


Fig. 4.

forms the bend, 15 cm. The blade is 12.5 cm. long, 4 cm. wide at the base, by 7.5 cm. wide across the cutting edge. The blade is fastened by a projecting tongue which is socketed into the elbow of the bend, so that it lies in a plane turned about 30° from that of the haft. This results in the blade's naturally lying in a horizontal plane when the tool is being used.

The tool shown in fig. 5 is similar to the foregoing, although it shows some minor differences. The handle, instead of being straight, is so curved that the blade naturally lies in a plane almost horizontal, when the implement is firmly held in the right hand of one in a stooping position. To form a convenient grip, the end of the handle is beveled. The blade (1-3 mm. thick) is approximately rectangular, being slightly broader

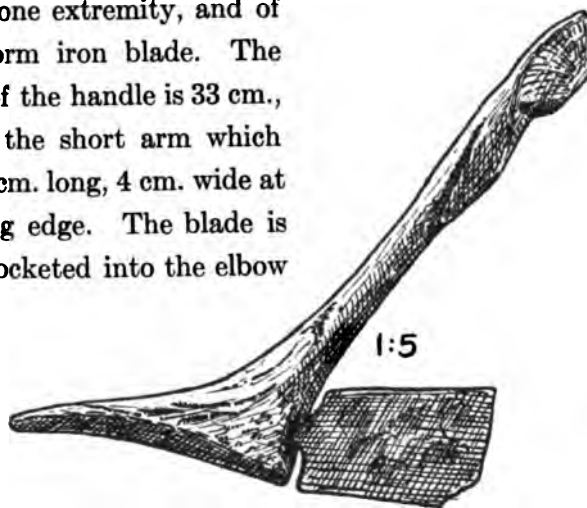


Fig. 5.

<sup>1</sup> A parallel type, which can however hardly be in any way related to the Egyptian specimen, is not infrequent in the Cambodian kitchen middens; E. Cartailhac, 'Les bronzes pré-historiques du Cambodge' (*L'Anthropologie*, vol. 1, Paris, 1890, p. 646, figs. 1-5).

<sup>2</sup> O. Bates, 'Sudanese notes' (*Cairo Scient. Journ.*, vol. 6, no. 69, June, 1912, p. 138) fig. 5.



(8 cm.) at its cutting edge than at its butt (5 cm.). From the center of the butt projects the socketing tongue, 2 cm. wide at the base.

Both tools show hard usage: the grips are polished, and the rough hammered blades are worn at the cutting edges. This wear is in each case especially noticeable at the lower outside corners, which are battered and broken. Grass cutters of this sort are chiefly employed in collecting material for mats and for the building of *tukuls* (huts).

6. **Date of the Libyan burials at Marsa Maṭrûḥ.** In 1913, in the course of some preliminary excavations carried out at Marsa Maṭrûḥ (Paraetionium) by my friend W. J. Harding King and myself, were found five archaic Libyan graves which, as they are the only ones of their sort thus far recorded, are of exceptional interest. Of these graves two contained burials and gear. The latter comprised among other things two basalt jars of non-Egyptian form but of a technique identical with that of the stone vessels of the early Nile Valley.

The graves and their contents were published in *Ancient Egypt*,<sup>3</sup> and to the account there given Professor Petrie was kind enough to append an interesting note on some stone vessels in the collection of University College. The stone vessels in question had been obtained in Egypt by purchase, but were of non-Egyptian forms: in several cases they bore an unmistakable likeness to the two Libyan vases from Maṭrûḥ. The provenance and age of the specimens cited by Professor Petrie were alike unknown: of the are of the Libyan examples it could only be said that they had every appearance of being of great age. In publishing the graves I referred to their probable date in the following words:

"When the known factors of the case are considered . . . I would tentatively assign these burials to a period between 2000 and 1500 B. C.; but until the accumulation of further evidence, it can be of no value to science to indulge too freely in such speculations."<sup>4</sup>

Professor Petrie, writing of the cognate forms in the collection of University College remarked:

"We may gather . . . that the amount of similarity to Egyptian types gives a suggestion of a period between the VIth and the XIIth dynasties, or perhaps in the XIIth dynasty, for both of these types."<sup>5</sup>

I do not feel that either of these suggestions is in need of apology; they were made with great reservation, and with a full acknowledgment of the scantiness of the data which could be brought to bear on the question. It is only recently that a fortunate

<sup>3</sup> O. Bates, 'Archaic burials at Marsa Maṭrûḥ' (*Ancient Egypt*, London, 1915, pt. 4, p. 158-165).

<sup>4</sup> *Ibid.*, p. 165.

<sup>5</sup> W. M. F. Petrie, *ad calc.* *Ibid.*, p. 166.

circumstance has made it appear that in our estimates of the age of the Maṭrûḥ burials both Professor Petrie and myself were far too conservative.

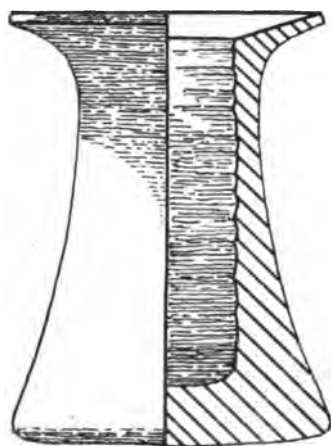


Fig. 6.

Not long ago G. A. Reisner excavated at Mesa'îd, in Upper Egypt, a cemetery which ranged in date from early predynastic to protodynastic times. In a plundered grave belonging to the close of the predynastic period ("Dynasty O") was found the vase of basalt here reproduced, in fig. 6. The vessel was badly "rusted" after the manner not uncommonly seen in the antiquities of this material: the lip was most of it in small fragments or crumbs, which could be pieced together only after several weeks of careful work.

This vessel, with numerous other antiquities, was sent to the Peabody Museum,

where it was skilfully mended by S. J. Guernsey (P. M. no. B 470; Reisner's register, Mesa'îd 2131), and where its relationship to one of the two basalt vases from Maṭrûḥ — that reproduced in fig. 7 — was at once recognized. Not only is the Maṭrûḥ vase identical in substance and in technique with this newly discovered specimen, but they both have the expanding bases and thin wide lips which so characteristically differentiate them from the recognized Egyptian forms.

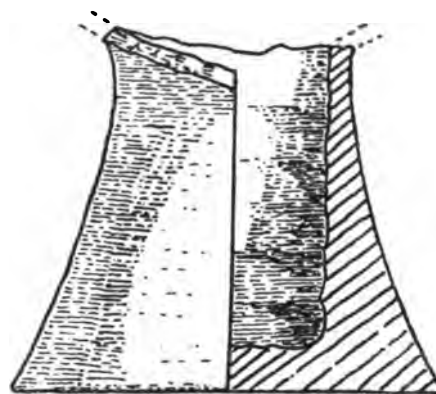


Fig. 7.

Although in cases of this sort one ought always to speak with caution, I do not think it can be denied that the evidence is now in favor of assigning a date somewhere about 3300 B. C. to the Libyan graves. There is here no inherent improbability, and I venture to predict that further researches in the coastal regions west of Egypt, especially in the Cyrenaica and the Gebel el-'Aḳabah, will in time reveal in those areas an ancient culture, roughly contemporary with that of prehistoric Egypt, and in many respects comparable to it in richness. I suggest these westerly localities in view of the improbability of the more barren lands of Marmaricā having served as the original home of any specialized culture.

7. **Hôlâl.** In the vicinity of Sennar the natives make general use of implements such as that shown in fig. 8. The tool in question is a horn chisel, called simply by the Arabic name of *ḳurun*, "horn," or, more specifically, *hólâl*.

Such of these tools as I have seen were made from the horns of the *Gazella rufifrons*

or *G. dorcas*. The horns had been taken off the cores at the base, and the ends had been rubbed down to the required chisel-shape, as shown in fig. 8.

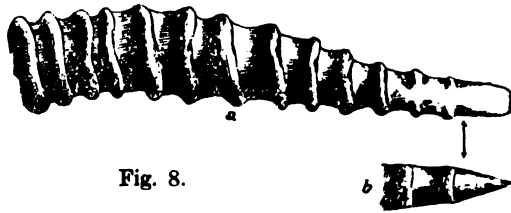


Fig. 8.

The finished tool is employed for slivering bark off of trees for the purpose of making cords, the chief use of which is in binding the thatch of *tukuls*. The *hólál* is considered more satisfactory for removing strips of bark than is an iron knife, probably because a slight misdirection of the latter might sever the strip, whereas a slip of the blunter tool would do no harm.<sup>6</sup>

8. **The origin of the Vai syllabary.**—About the middle of January, 1849, an English naval officer reported to the missionaries at Sierra Leone the existence of a written language among certain natives near Cape Mount. In the hope that this discovery might prove useful for the furtherance of missionary effort, S. W. Koelle determined to investigate it. His researches, he informs us, led to the discovery of the Vai syllabary<sup>7</sup> which, according to his informants, had been invented about fifteen years previously — i. e. about 1835 — by a small group of natives. Of the spread of the script within fifteen years among a people who, before its invention, had been quite ignorant of writing, Koelle makes this remarkable statement:

At the present time it would appear . . . that in Bandakoro all grown up people of the male sex are more or less able to read and to write, and that in all other Vei towns there are at least some men who can spell their "country-book".<sup>8</sup>

The truth of such a record of development of a native writing is important not only for our understanding of the mental capacity of the natives themselves, but also for our knowledge of the origin and history of writing in general. Consequently, any additional information on the origin of the Vai syllabary is not without value.

Contrary to the generally received opinion, the first published notice of the lan-

<sup>6</sup> This account is based on one published in the brief notes referred to in n. 2.

<sup>7</sup> For recent accounts of the Vai writing, see F. W. H. Migeon, 'The syllabic writing of the Vai people' (Jour. Afr. Soc. vol. 9, no. 33, London, Oct. 1909, p. 46-58); H. H. Johnston, Liberia, London, 1906, vol. 2, p. 1107-1135; Momolu Massaquoi, 'The Vai people and their syllabic writing' (Jour. Afr. Soc., vol. 10, no. 40, London, July 1911, p. 459-466); M. Delafosse, Les Vai, leur langue et leur système d'écriture (L'Anthropologie, vol. 10, Paris, 1899, p. 294-314); The Vey language (Spirit of Missions, vol. 64, New York, 1899, p. 577-579). Two of the early descriptions are: F. E. Forbes, Despatch concerning the discovery of a native written character, etc. (Jour. R. Geog. Soc., vol. 20, London, 1850, p. 89-101); E. Norris, Notes on the Vei language and alphabet (Jour. R. Geog. Soc., vol. 20, London, 1850, p. 101-113). Cf. also S. W. Koelle, Outlines of a grammar of the Vei language, London, 1854, Appendix, p. 229-256.

<sup>8</sup> S. W. Koelle, Narrative of an expedition into the Vy country of West Africa and the discovery of a system of syllabic writing recently invented by the natives of the Vy tribe, London, 1849, p. 25. Cf. also Church Missionary Soc. for Africa and the East, 1849-1850, p. lxvii-lxix.

guage is not that of Koelle, but one which appeared in the *Missionary Herald* in 1834.<sup>9</sup> This account states that specimens of the writing had been left in the rooms of the American Board of Commissioners for Foreign Missions in Boston. Diligent search in their archives failed to reveal these specimens,<sup>10</sup> but several notices of interest in regard to the Vai syllabary were discovered.

In the manuscript journal<sup>11</sup> of John Leighton Wilson, the following entry occurs under the date of January 30, 1834:

Mr. Pinney informed me that the Vey people (a tribe residing on Cape Mount) had recently invented a system of writing in which although it has not been more than one year since it was commenced, they have already written volumes. Their characters stand for syllables [*sic*]. . . . Some of their characters are evidently Arabic, some resemble Hebrew characters — most of them resemble no written characters that we have ever seen.

In the manuscript journal<sup>12</sup> of another missionary, Stephen R. Wynkoop, the following passage was entered in 1834:

A few individuals of this people (the Vey) are engaged in reducing their language to written forms. It was commenced about a year since. Letters are exchanged among them. The characters are syllabic.

An old man<sup>13</sup> dreamed that he must immediately begin to make characters for his language that his people might write letters as they did in Monrovia. He communicated his dream to some others and they began the work. The progress has satisfied them that it can be accomplished.

Finally, in a joint report submitted by Wilson and Wynkoop to the American Board,<sup>14</sup> occurs the following:

The Vey people, the tribe residing on Grand Cape Mount, have recently invented a system of writing, entirely new and altogether different from any other we have seen, in which, although it is not more than two years since it was first invented, they write letters and books. Some of their characters resemble the Arabic — some resemble Hebrew letters, others Greek characters; but all of them except those resembling the Arabic are merely fanciful. The alphabet is syllabic. A specimen of writing in these characters will be left at the missionary rooms.

<sup>9</sup> *Missionary Herald*, vol. 30, Boston, 1834, p. 215.

<sup>10</sup> Since the above was written, I have found a published copy of what probably is this earliest collected specimen of the writing. It is reproduced in the adjoined plate. It was published originally by J. Leighton Wilson, *Western Africa*, New York, 1856, p. 94.

<sup>11</sup> Journal of J. Leighton Wilson on a missionary tour to Western Africa in the year 1834. This manuscript forms part of a volume of correspondence of the American Board labelled; "53. West Africa, South Africa, Previous to 1838, XII." John Leighton Wilson was born at Mount Clio, South Carolina, on March 25, 1809. He graduated from Union College in 1829, and from the Southern Theological Seminary in 1833. From Nov. 28, 1833 to March 9, 1834 he traveled along the western coast of Africa to find a satisfactory site for a mission. The above mentioned journal describes this journey. He married Jane Elizabeth Bayard, in Savannah, Georgia, May 21, 1834. He left again for Africa on Nov. 5 of the same year. From that date to 1852 he served as missionary first at Cape Palmas and later in the Gaboon district. He wrote several linguistic works, among which were: *Grammar of the Mpongwe language*, New York, 1847; 'Comparative vocabularies of some of the principal negro dialects of Africa' (*Jour. Amer. Orient. Soc.*, vol. 1, New Haven, 1847, p. 341-348); *A brief grammatical analysis of the Grebo language*, Cape Palmas, 1838; *Dictionary of the Grebo language*, Fair Hope, Cape Palmas, West Africa, 1839. Wilson died at Mayesville, South Carolina, July 13, 1886.

<sup>12</sup> This manuscript is bound up with that just mentioned in n. 5.

<sup>13</sup> According to W. S. Koelle, *op. cit.*, p. 21, the inventor of the syllabary was only forty years old in 1849.

<sup>14</sup> Manuscript bound up with the two journals just mentioned.

